

THE
ANTHROPOLOGICAL REVIEW.

No. XXVIII.

JANUARY, 1870.

MR. FREEMAN'S DUTCHMEN.*

THREE of the greatest authorities on the races which are said to inhabit the British Islands are Mr. Edward Augustus Freeman, Mr. Samuel Lysons, and Mr. Tony Weller. "If he ain't got enough out on 'em, Sammy, to make him free of the water company for life," said Mr. Weller, "I'm one Dutchman and you're another, and that's all about it." And in this very strong expression of opinion appear not only Mr. Weller's anthropological views, but also his belief that to the mind of any British hearer nothing can appear so absurd as the identification of a Dutchman with a Briton. In fact, he was only repeating a British proverbial expression.

Mr. Lysons tells us that Britons are Jews, and holds, so to speak, an intermediate position between Mr. Weller and Mr. Freeman; for the latter tells us, unconditionally and dogmatically, according to his custom, that he is a Dutchman, and that we are all Dutchmen too. And we are prepared to admit that, if Mr. Freeman can write consistently, if he knows what he means by the terms which he uses, if he has carefully considered the relation with other Aryan languages of the languages spoken in this country, either before the Norman Conquest or after, if he knows either how to reason or how to write with candour, then he is a Dutchman, and there is no Briton who is not Dutch.

In reviewing Mr. Freeman's work, so far as it has an anthropological bearing, we shall find it necessary to employ mere verbal criticism in a manner hardly befitting a scientific publication. The fault, however, is not ours, but that of the work reviewed; and we trust that, if we cannot add to the knowledge, we may at least contribute to the amusement, of our readers. We have long been arguing that a strict definition of terms is one of the greatest wants of anthro-

* *The History of the Norman Conquest of England: its Causes and its Results.* By Edward A. Freeman, M.A., late Fellow of Trinity College. Oxford: at the Clarendon Press.

pology in all its branches. We now take Mr. Freeman as the best possible illustration of an anthropological *littérateur* who steps recklessly in where even angels might fear to tread.

The scope of Mr. Freeman's work is to show that the Norman Conquest, instead of wiping out the race, the laws, and the language which existed before it, did but communicate to us a certain foreign infusion in all three branches which was speedily absorbed and assimilated into the pre-existing mass. He has, however, given great prominence to the history of the country before the year 1066, because, as he says, the Englishmen before the Conquest were the same people as the Englishmen after it; while the Englishmen who lived after the year 449 were a wholly different people from the Britons who lived before that time. It is not our intention at present to consider the political effects of the Norman Conquest, to illustrate which he has consulted every possible authority, good, bad, and indifferent. We will only call attention to the great industry and still greater ingenuity of a gentleman who has already produced three large volumes, and is about to produce two more, on the history of a period for which there is very little contemporary evidence, and for which, in his estimation, contemporary evidence alone is valuable.

It is tolerably clear that, in the dearth of authentic details, Mr. Freeman's facts must bear to his theories about the same proportion which Falstaff's bread bore to his sack. And the farther we go back, the smaller become the facts and the bigger the theories, until, at last, the theories are very much like thick clouds in a storm, supported on nothing but empty air, and quite impenetrable to mortal vision.

The fundamental dogma of Mr. Freeman's work is, that "the Celtic inhabitants of those parts of Britain which had become English at the end of the sixth century had been as nearly extirpated as a nation can be." Putting aside the ambiguities which lurk in the expressions "Celtic" and "become English", we understand Mr. Freeman to mean that the Anglian, Frisian, Saxon, and Jutish invaders, had as nearly as possible extirpated the inhabitants of Britain whom they had conquered. The statement is intelligible when translated out of Mr. Freeman's phraseology; and we believe the chief authorities for it to be the penny press and the *Saturday Review*. Of course, we have no right to object to any repetition, even in obscure language, of any popular dogma; nor should we have given ourselves the trouble to notice it, had not Mr. Freeman undertaken to re-write the works of Thierry and Palgrave, because they have drawn from "careless and ill-informed compilers," while he relies only on "contemporary chronicles and charters". But here lies our first great difficulty. It is comprehensible that one writer should copy a statement without investigation; it is comprehensible that another writer should reject every

statement which is not founded upon contemporary evidence ; but Mr. Freeman has pursued the first method under pretence of following the second. And here, we confess, we find him a little too clever for us.

We have said that Mr. Freeman is ingenious. He has introduced into literature a device well known to watermen on the Thames. They, when steering up to a wharf, throw out what, we believe, is commonly known as a "fender", and interpose it between the vessel and the hard wood-work with which the vessel is in danger of coming into contact. Mr. Freeman steers his fragile bark towards the terra firma of sound historical criticism, but suddenly grows timid, and interposes such a very large "fender", that he never gets near the shore at all. Mr. Freeman's "fender" is Dr. Guest. "On these questions," he tells us, "I have little to do except to profess myself, in all essential points, an unreserved follower of that illustrious scholar." And "these questions" are the acceptance or non-acceptance of Gildas and the earliest portions of the Anglo-Saxon Chronicle as trustworthy historical evidence. Mr. Freeman has not the courage—we believe he would call it Dutch courage—to assert that we find in those authorities a credible contemporary account of the events which came to pass in Britain after the abandonment of the island by the Romans. He does not even quote the words of Dr. Guest, who asserts that there is not the slightest reason to doubt any of the statements of Gildas. Intentionally or unintentionally, we hardly know which, he keeps Gildas in the background, and puts forward Dr. Guest, who, so far as this matter is concerned, is only Gildas in disguise. It really seems to us that Mr. Freeman regards the works which bear the name of St. Gildas as Dutch scriptures, inspired by so holy a person that they can only be mentioned indirectly through the name of a believer.

But why Dutch ? it will be asked. We will give the answer in the words of Mr. Freeman himself, who, having slain the whole British people with the aid of Dr. Guest, proceeds to assert the identity of race and language, and preaches a sermon concerning our "Low Dutch stock." "I use," he says, "as a technical term, this correct and old-fashioned description of the class of languages to which our own belongs. The English language is simply Low Dutch, with a very small Welsh and a very large Romance infusion into its vocabulary..... It should always be borne in mind that our affinity in blood and language is, in the first degree with the Low Dutch, in the second degree with the Danish. With the High Dutch, the German of modern literature, we have no direct connection at all."

We have seen a considerable number of absurd statements in connection with this subject ; but we think Mr. Freeman might have spared himself the trouble of writing the last sentence which we have

quoted, as we never saw it anywhere stated that the British nation is descended from German literature.

Mr. Freeman, though very much given to verbal quibbling, never seems to weigh the words which he uses. "The *English* language is *simply* Low Dutch, with a very small *Welsh* and a very large Romance infusion into its vocabulary!" What a clotted mass of nonsense! as Mr. Carlyle would say. In the first place, it is exactly like a definition of strong grog as *simply* water, with a very little sugar and a great quantity of spirit. Does Mr. Freeman know the meaning of the word *simply*, or does he not? As he is an Oxford Master of Arts, we suppose he must know something about Latin. As he professes to identify modern English with the language spoken in the south of Britain before the Norman Conquest, he ought to know something about the history of the word *simple* in this country. And if he is acquainted with Latin, and does know the meaning of the word *simple* in English, he has afforded us a curious example of a Dutch bull. The definition which we have given of strong grog would most infallibly have been described as a bull had it been given by an Irishman. Mr. Freeman's definition of the English language runs exactly parallel to the definition of strong grog; and, therefore, if, as Mr. Freeman alleges, he is a Dutchman, his bull must be of Dutch growth also. We trust he will not consider it an unjustifiable personality if we say that, in the interests of anthropology, we should very much like to have some particulars concerning his pedigree.

The truth is, that this wonderful sentence is but a translation into the Freemantic dialect of the obviously false statement put forward by the German school, that "the grammar, the blood and soul of the language, is as pure and unmixed in English as spoken in the British Isles, as it was when spoken on the shores of the German Ocean by the Angles, Saxons, and Juts of the continent." Mr. Freeman, however, affects a German simplicity of style which is apt to bear a resemblance to the simplicity of German philosophers. Indeed, we are inclined to think that Mr. Freeman must be a philosopher without knowing it. The dogma that "Britons are Dutchmen", is so very much like "Being is the same as Nothing" and "Everything is the same as its Other", that, in reading *The Norman Conquest*, we have more than once had to pause and look at the title-page in order to satisfy ourselves whether we were or were not reading *The Secret of Hegel*.

To return, however, to the oracular sentence concerning the English language, we must take Mr. Freeman's definitions, written or implied, of his own terms, before we can see the whole of its beauties. We will begin with the *English* language. The following quotations ought to show what Mr. Freeman means by it :

"In speaking of the Teutonic inhabitants of Britain, looked at as a whole, I invariably use the word 'English'; never the words Saxon or Anglo-Saxon."

"The name by which our forefathers really knew themselves was English, and no other..... The people are the English, their tongue is the English tongue, their king is the King of the English..... The people whom William overcame at Senlac, and over whom he was crowned king at Westminster, knew themselves, and were known to their conquerors and to all the rest of the world, except the Celts of Britain and Ireland, by the name of *English* and by the name of *English* alone."

"The English language has never either changed its name or lost its continuity. In the eyes of the scientific philologist, it is the same English language throughout all its modifications."

As it was the "English" language, according to Mr. Freeman, which was spoken in South Britain before the Norman Conquest, we suppose we ought to infer that it had "a very large Romance infusion into its vocabulary"—a discovery of which we willingly admit that Mr. Freeman may fairly claim the whole merit.

His use of the word "Welsh" (which is peculiar to himself among British writers) is uniformly in the "Dutch" sense, as he would call it—of "foreign"; i.e., foreign to the invading Anglians, Saxons, Frisians, or Jutes. We are not certain that he has anywhere stated this in so many words; but the following quotations preclude all possibility of doubt on the point:

"Setting aside the kindred Danes, we have thus assimilated two utterly foreign elements, British and French; what our forefathers called *Bret-Welsh* and *Gal-Welsh*.".....

"Some of the passages collected by Sir Francis Palgrave would seem to show that parties of independent *Welshmen* held out in the fen country till a very late date."

"If a *Welsh* king did invite a Jutish chieftain to defend him, that invitation was only the occasion, and not the cause, of the conquest which now began."

It is quite clear that, when Mr. Freeman describes Vortigern as a Welsh king, he is speaking from the point of view of the invaders, to whom everything not "Dutch" was "Welsh." If so, it is quite evident that any infusion into a Low Dutch vocabulary must be Welsh, and, in particular, that French or Romance must be Gal-Welsh. What, then, Mr. Freeman means by saying that English is Low Dutch, with a very small Welsh and a very large Romance infusion into its vocabulary we can no more understand, than we can understand how any compound of three ingredients can be described as simply one of them. If we now revert to the parallel definition

of strong grog, it will run thus: strong grog is simply water with a very small infusion of spirits and a very large infusion of brandy!

It is hardly credible, but it is nevertheless a fact, that Mr. Freeman, who seems to suppose that no one but himself is aware of the difference between high-German and low-German languages, proceeds to describe them and the people speaking them as if they were all closely akin, immediately after he has drawn the distinction. He speaks of our "Teutonic settlers," their "Teutonic dominion," their "Teutonic speech," and their "Teutonic origin," in language precisely similar to that which he applies to the high German dialect, and the people speaking them on the Continent. We beg his pardon: he speaks of Germany, where high German is spoken, as the "*The great Teutonic realm*," an expression, which, so far as we are aware, he has never applied to any district in which a low German dialect is, or has been, spoken. Indeed, if we must confess the truth, we are inclined to infer that Mr. Freeman began to discriminate between High and Low German after his first volume was written, and that he omitted to alter many passages in which the two classes were confused.

This theory is confirmed by another obvious tag which appears in one of Mr. Freeman's notes. After dilating upon the similarity of all "Teutonic" law, high and low alike, he suddenly becomes aware that this similarity is not confined to laws written in Teutonic dialects, but may be found elsewhere. He dismisses this fact as a mere trifle, qualifying the word "Teutonic" as "rather Aryan," but not perceiving in the least that when he has inserted these two words he has given up every thing for which he had previously been contending. It is perfectly clear that he has never considered how useful that word "Aryan" is in its application to language, and what a terrible misnomer it is in relation to modern races. It was evidently only at the very last moment that the necessity of distinguishing the non-Teutonic from the Teutonic, in matters of law, became dimly present to his consciousness. But it is still more evident that he has never taken the pains to inquire how much of our modern English language is Teutonic, and how much of what has been called Teutonic is simply Aryan.

Mr. Freeman, in spite of his pretended adhesion to Sir G. C. Lewis's school of historical criticism, is the very type of the man who takes things for granted. He accepts every statement made by Mr. Max Müller in philological matters as law; he accepts as fact every statement on one side of the race-question in England, no matter by whom or when it was made. We have already given one instance of this in the sentence expressing his adhesion to everything said by "that illustrious scholar," Dr. Guest. We shall be able to illustrate the point

farther by showing the sense which he attaches to the word "scholar." We find the definition in Mr. Freeman's character of Alfred, of whom he speaks as a "scholar without ostentation," a "saint, and a scholar," and whom he then describes in the following words:—"He shows no signs of original genius; he is simply an editor and translator, working honestly for the improvement of the subjects whom he loved. This is really a purer fame, and one more in harmony with the other features of Ælfred's character than the highest achievements of the poet, the historian, or the philosopher. I repeat, then, that Ælfred is the most perfect character in history."

We infer, then, that a scholar is a person who shows no signs of original genius; and though he has a fair chance of becoming like the most perfect character in history, by reason of this defect, we doubt whether Dr. Guest will consider that Mr. Freeman has paid him a very high compliment in calling him an illustrious "scholar." We think he deserved something better at the hands of his pupil. It will be observed that in the passage last quoted, Alfred is spelled Ælfred; and this, we must explain, is a form of that scholarship which Mr. Freeman believes to be the one thing needful for the discrimination of races. "As in my History of Federal Government," says he, "I ventured to restore the Greek spelling of proper names, so I now follow the example of *scholars* like Kemble, Lappenberg, and others, in employing the genuine spelling of old-English names." Throughout his work, therefore, Alfred becomes Ælfred, Athelstane Æthelstan, Ethelbert Æthelberht, and so on. Until we discovered, by Mr. Freeman's assistance, that Alfred was the greatest character in history, because he had no original ideas, we thought it possible that the illustrious monarch, when not engaged in baking cakes or consulting the quacks of the period, might have found leisure to plan something analogous to the French Dictionary of the Academy. We confess it did seem to us rather strange that the mode of spelling should have been definitely fixed before the Norman Conquest, when we were quite certain, from an inspection of manuscripts, that no two scribes had been consistent with each other either before or after the Conquest, until long after the reign of Elizabeth, until some of the greatest works in our literature had been written. And we fear we must confess, also, that we have been unable to discover any Saxon, Anglian, Engisc, Anglo-Saxon, Jutish, Frisian, Low-Dutch, or (if Mr. Freeman insists upon the word) Old-English Dictionary of the Academy, or any indication that there ever was a "genuine" mode of spelling pre-Norman names.

We ask attention to this point, ludicrously trivial as it may appear, because it is by his scholarship, his accuracy in small matters, that

Mr. Freeman wishes to be judged. His scholarship is the tortoise which supports his world, and when the shell of his tortoise is broken, away goes his world into space. The real truth is, that the scholars Kemble and Lappenberg, whom Mr. Freeman professes to have followed, were not consistent in their spelling, and the only authorities on which they could depend are more inconsistent still. We propose to take only one name, as an instance, not because the spelling of it varies more than that of any other name, but simply because almost any one name might be taken as a fair specimen. The name which Englishmen, without any affectation of pedantry, spell "Ethelbert," Mr. Freeman spells Æthelberht. This is the "genuine" spelling—that which a scholar ought to adopt.

Now it happens that there is no contemporary chronicler of the time at which Ethelbert, the convert of Augustine, lived. There is a charter which is said not to be, but which probably is, a forgery, in which the name is not spelled as Mr. Freeman spells it. The manuscripts of the Anglo-Saxon chronicle vary greatly in their spelling, as will be seen by comparison of the following forms: Æpelbryht, Æpelbriht, Æðelbriht, Æðelbyrht, Æðelberht, Ægelberht, Egelberht. Bede spells the name Ædilberct, and he probably lived nearer the time of Ethelbert than any transcriber of the Anglo-Saxon Chronicle. As, however, Mr. Freeman's reason for giving us the "genuine" spelling is that the pre-Norman names, as generally spelled, are a mere chaos of French and Latin corruptions, we must presume he thought that Bede was a corruptor because Bede wrote in Latin. Whether he did think so or not, we beg leave to inform him that the spelling which he has adopted is precisely that which appears in the latest manuscripts of the Anglo-Saxon chronicle, written after the time when the French and Latin corruptions had begun. Of the two best manuscripts of the Chronicle, one gives the spelling Æpelbryht the other Æpelbriht. We leave him, therefore, to derive all the satisfaction possible to him from the contemplation of "Æthelberht" in print, and will not discuss the absurdity of supposing that the type of our modern English printers can faithfully reproduce, with their correct value, the vowels and consonants in use before the Conquest.

We are approaching nearer and nearer to the complete definition of that scholarship which, according to Mr. Freeman, is to be our great guide in the investigation of race. The possession of original ideas, as we have already seen, is a disqualification; the scholar must be a servile copyist; he must not copy from any original sources, but from other scholars; and if he is writing on English history or the English language, his best authority will be a German—a High-Dutchman, as Mr. Freeman would say. All this ridiculous affectation of an impos-

sible accuracy in trifles is the birth-right of German pedants, who, we hope, will in future be left in full possession of it. It is simply an instance of that love of petty details for their own sake of which all German literature furnishes examples. We believe Mr. Freeman, as a Briton, to be capable of better things, though, of course, if he really is a Dutchman there is but little hope that his sphere of vision will be enlarged beyond the range of scholarship.

We have, hitherto, omitted to mention one caution, which any person anxious to be considered a scholar should carefully remember. We have seen that it is not enough for him to copy—that he must be careful to copy accurately that which is not correct. But he is allowed a certain discretion in the language which he may use, and he can attain the highest glory only by rendering his vocabulary, his idioms, and his grammar, as unlike as possible to the vocabulary idioms and grammar in ordinary use in the country in which he lives. We have frequently remarked this in the works of German scholars, and we must congratulate Mr. Freeman on having soared very high in this important branch of his art.

“A few Celtic,” he says, “and a still fewer Latin words found their way into English from the first days of the Conquest.”

“In short, everywhere but in Britain an intruding nation sat down by the side of an older nation, and gradually lost *itself* in *its* mass.”

“Later thought and study *has* at last brought me to an intermediate position.”

“Much learning and ingenuity *has* been spent.”

“Strictly national churches existed only in those lands of the further East, where the religious and the political loyalty of Syrians and Egyptians was already equally doubtful, and which were destined to fall away at the first touch of the victorious Saracen.”

“I confess that the calm *way* in which the Chronicles reckon the Prelates among the slain alongside of the Ealdormen *looks to me the other way.*”

When those students of anthropology (if any there be) who may intend to abandon the scientific for the scholastic method, have discovered how Mr. Freeman's ways look to him and look another way at the same time, they may be congratulated on having only one more rule to remember. Should they devote themselves to historical anthropology, they must be very careful not to be led away by such idle phrases as “the dignity of history.” In order to arrive at Mr. Freeman's fulness of perfection, they must be very indignant with any one who presumes to write a single sentence on the side opposed to their own—no matter whether the writer be an ancient-chronicler or a modern author. They must collect a large stock of vituperative

epithets, and it may perhaps be of some assistance to them to know that Mr. Freeman has already given his sanction to "stuff," which is a very favourite expression of his, to "wild story," to "wild theory," and (we are not inventing) to "mere Billingsgate."

Having now, as we believe, given all the information necessary for any stray anthropologists who may be so very retrogressive as to desire the title of "scholar," we will return to Mr. Freeman's historical method. We must, however, state by way of apology for the intricacies of the maze of scholarship into which we have led our readers, that there really was no other way of making his true position intelligible. He continually reminds us of Falstaff's description of Mrs. Quickly: he is neither fish nor flesh, and no man knows where to have him. When he promises to be critical he suddenly becomes philological; we ask him for a contemporary chronicler and he gives us a word spelled after his own fashion; we want his definition of race, and he tells us of German literature; we want his authorities for the extirpation of the Britons, and he remarks that Dr. Guest is an illustrious scholar. But, in addition to the device of interposing Dr. Guest as a "fender," he has another somewhat ingenious, though rather simple, method of manufacturing contemporary authorities when he wants them. He reads a chronicler who wrote many centuries after the period under discussion. He finds a statement which suits his purpose, and he immediately discovers that this statement *must have* been found in a contemporary ballad or other valuable historical document. We believe Niebuhr did something of the same kind, so there is excellent "High-Dutch" authority for the process. But we venture humbly to remark, from the non-scholastic point of view, that in this way it is possible for any writer of history to prove any proposition which he may think worth the trouble.

As we have not extenuated anything, we wish to be specially careful that we set down nothing in malice, and we therefore give some passages which show the material of which the second string to Mr. Freeman's bow is made.

"I adopt the description of William of Malmesbury, evidently a fragment of a ballad."

"In the rhetoric of Henry of Huntingdon we may discern fragments of a ballad."

"William of Malmesbury has evidently worked out the life of Æthelstan with unusual care, *seemingly from lost sources, and, amidst a great deal of fable we recover some truth.*"

"The deposition of Sigeberht, in 755, was, according to Henry of Huntingdon, *who is clearly translating some earlier writer*, the act of the whole West-Saxon people."

"The Amazons are of course a flourish of Henry's own, out of Horace, but the oxen may very likely come from a ballad."

"Bromton (so to call him) must have had some authority before him, when he made the significant remark," etc.

Had Mr. Freeman wished to arrive at the truth by impartial investigation, we think he might have discovered something in Henry of Huntingdon which would have illustrated the true character of that writer, and many of his predecessors, far better than the imaginary extracts from "ballads," "lost sources," and "some authority."

Henry of Huntingdon, who lived in the earlier part of the twelfth century, has described the effects of the Norman Conquest in language precisely similar to that in which Gildas described the subjection of Britons to Saxons, Anglians, or Frisians. "The Lord," says Henry, "accomplished in the year 1066 a design which he had long conceived. He delivered over the Anglian race to be utterly exterminated by the merciless and crafty Normans." This is simply the old story of Gildas with new actors.

Putting aside for a moment the question of contemporaneity, we may perhaps do some good by pointing out that these monstrous exaggerations were the natural results of the mental tendencies of a dark age. The statements that disease is caused by witchcraft, and that a thunderstorm is a miracle, are neither more nor less trustworthy than the statements that the Saxons annihilated the Britons, and that the Normans exterminated the people which they conquered, whatever may be its proper designation. The mental habits which long impeded the advance of science had a most damaging effect upon narrations of plain matters of fact. There is a good parallel to the fictions of our earlier chroniclers in the theories of our first geologists. The first impulse was to fix the attention exclusively upon one force, to multiply it indefinitely, and to explain by it alone every change in the surface of the earth. Subterraneous fires bursting through the solid crust of our globe, or sudden attacks of the ocean, which submerged whole continents, and changed at once the relative positions of sea and land, were the only agents which the first enthusiastic investigators were content to regard. The causes which are constantly in action around us, the almost imperceptible abrasion of the solid rocks, the deposits which are slowly but unceasingly made at the mouths of rivers, and in the deepest seas, the gradual elevation or depression of certain districts, century by century, were overlooked in the intoxication of new discoveries. It was reserved for a new generation, animated by a new spirit, to detect the origin of the most recent events. The early historians were for the most part like the early geologists. They magnified what they saw, they invented extraordinary fictions to ac-

count for ordinary occurrences, and they often omitted to see, or at least to relate, matters which had become familiar to them by experience, and which were, perhaps, disregarded by reason of their familiarity. Hence arose the fables of universal murder, and of nations utterly destroyed, which deserve the same amount of credit as the statement that Britain is a floating island, appearing now in one part of the Atlantic, now in another.

We need hardly say that Mr. Freeman makes no such use of this passage in Henry of Huntingdon as we have just made, nor is it probable that he will see it in the light in which we see it when he tells us the effects of the Norman Conquest. As it does not "look his way," he will probably have sufficient discretion to say nothing about it, though we confess we see no reason why we should not call it part of a contemporary song, and declare that it must *therefore* be strictly true.

Another question, however, suggests itself in connexion with Mr. Freeman's lost sources. We should very much like to know from what sources he filled in the names which appear in his map of "Britain in 597." We there find Axminster and St. Albans, and we can only explain the anachronism on the supposition that there must have been some lost ballads in which some prophetic poets sang of those places by anticipation. Let no one say that we are hypercritical in raising this objection. Mr. Freeman prides himself on his extreme accuracy in matters of that kind. He very carefully gives us "Wihtgaresbyrig" instead of "Carisbrooke", and he, therefore, had no intention of modernising the names. Axminster! a minster in the year 597, the very year in which Augustine, the first missionary to the "Angli", landed in Kent! St. Albans in the year 597! Why, even in the time of Bede, a good century later, the place was called "Verlamacaester" or "Vaetlingacaester", as he will discover if he will look at Bede. (*Monumenta*, p. 114; the edition to which he commonly refers.)

The more we read of *The Norman Conquest*, and the more we are told that Mr. Freeman is a Dutchman, the more apt appear to us the lines of Canning:

"In matters of commerce, the fault of the Dutch,
Is giving too little and asking too much."

We mean, of course, too little proof and too much belief. For what Mr. Freeman's Dutch theory comes to is this. None but scholars are worthy of credit; scholars say Englishmen are Low Dutch, and that they and their language were called English before the Norman Conquest. This is the Dutch faith, which except a man believe—But we were in danger of becoming profane.

We have already seen what utter nonsense Mr. Freeman's own sentences make when we accept his own terms precisely in the sense which he wishes to have attached to them. But, in applying the word English to the people conquered at Hastings, even if he could be consistent in so doing, Mr. Freeman appears to us to have forgotten a fact, which is of the most vital importance from his point of view. If it be, in the eyes of a scholar, a sin to call that people Saxon, to call Ælfred Alfred, or Eadward Edward, how great a sin must it be to call Englisc English! Mr. Freeman, with all his affectation of accuracy, has converted *c* into *h*! The language spoken in South-eastern Britain before the Conquest is uniformly called Englisc by the writers of that language itself. Here is a point in which Mr. Freeman really might have been accurate had he possessed the requisite knowledge of manuscripts. But the great result of his scholarship seems to be that, in spelling proper names, where the manuscripts differ, he follows the worst; but in the use of the word English he differs from them all.

It is not worth while to follow him in his long disquisition concerning the use of the word Saxon. Suffice it to say, that he admits it to have been the word used by the Britons to designate their enemies, and the word by which those enemies, in the first years of invasion, at any rate, designated themselves. It will, probably, be apparent to any one but a scholar that where perfect accuracy is impossible there is need of some word which shall distinguish the people conquered by the Normans from the more civilised people of a later age, and the language which was without any Romance infusion from that which is chiefly Romance in vocabulary, and partly Romance in grammar. For ourselves, we care little what word may be chosen for the purpose, and we have some consolation in the reflection that in the matter of terms, confusion can never be worse confounded than it is in Mr. Freeman's book. The hour before daylight is the darkest in the twenty-four.

A criticism of Mr. Freeman's work is necessarily confined almost wholly to a criticism of words. His usual form of argument is the *ipse dixit*; for breadth of view he substitutes endless reiterations of his own dogmas in a long line which seems to lead nowhere; and we cannot remember more than one important principle which is enunciated in his book. This great principle is that every people should be designated by the name by which it designates itself; and Mr. Freeman's mode of illustrating his meaning is to give the name of Welsh to the people conquered by the Saxons. We need hardly say that the term is about as appropriate as the term Frenchman, commonly applied to a German or any foreigner by an ill-educated cockney.

In one respect, however, we must admit that Mr. Freeman is consistent; as applied to himself, the word Dutch is very appropriate. We have given specimens of his language towards his adversaries, of his Hegelian philosophy, and of his use of terms; and we feel bound to confess that his manner is Low-Dutch, his method High-Dutch, and his nomenclature Double-Dutch.

In conclusion, we must remark that it is high time the different scientific problems of race were taken out of the grasp of literary amateurs and second-hand philologists. Without impartial historical criticism, without a knowledge of anatomy, physiology, and psychology, it is impossible to discriminate the elements of which a nation is composed. To a knowledge of the last three subjects Mr. Freeman makes no pretension; about the first he discourses freely, but we have been unable to discover that he has any knowledge of manuscripts, or of the suspicion to which many of them are exposed. Fortunately, however, anthropology has become a study if not a science, and to it we believe Mr. Freeman will one day have to remark in the words of Caliban,

"Thou did'st prevent me, I had peopled else
This isle with *Dutchmen*."

ON THE NERVOUS, BILIOUS, LYMPHATIC, AND SANGUINE TEMPERAMENTS: THEIR CONNECTION WITH RACES IN ENGLAND, AND THEIR RELATIVE LONGEVITY.*

BY JOHN C. MURRAY, Esq., M.D., F.A.S.L.

HEALTH, and a good prospect of its continuance, are indicated by one configuration of person; disease, or a tendency thereto, by another. A little attention will soon enable an accurate observer to perceive the distinguishing signs of good and of precarious health. Address in this will be much aided by assiduous study of the temperaments or peculiarities of bodily and mental characteristics which distinguish one man or family from another; or, as I wish to put it more broadly still, one race or variety of a race from another.

There are four temperaments: the nervous, the bilious, the lymphatic, and the sanguine—each of which is distinguished by a certain

* A chapter from a Handbook, shortly to be published, intended for Assurance Offices and their Agents.

shape of head, of face, of body, different colour of hair, of skin, of eye. Besides this, there is a dissimilarity of mind, and even more or less difference in the quality and colour of the solids and liquids which compose the body.

I take the English to be a nervous nation, and will, therefore, adopt the nervous temperament as the standard. The bilious temperament is possessed of the densest and darkest blood ; and even the internal structures are of a firmer and darker colour than in the other temperaments—*e. g.*, the brain, nervous, fibrous, and muscular tissues. In the lymphatic, the blood is rich in fat or its elements, and, from the mixture of white with the red corpuscles, is more purple in hue. It is also the most aqueous. In the sanguine, the blood is reddest, and there is more of it than in the other temperaments. It occupies a middle place between the nervous and lymphatic with regard to the quantity of serum.

So much novelty of organisation must necessarily cause many phases of health ; and, consequently, persons are said to possess rude, vigorous, robust, strong, perfect, good, delicate, precarious, feeble, infirm health. With these qualifications of the term *health* (which in the last four conditions is merely an absence of active disease), it is apparent that medicine can never be an exact science. Its professors, however, have of late made as giant strides in pursuing its peculiarities as have been accomplished in any, the most facile and alluring study. Any state of health, from the most perfect to its failure in confirmed disease, might occur in the same person ; and a model of each temperament may be the subject of any disease to which flesh is heir. Nevertheless, experience proves that the temperaments are not equally liable to disease : each has its kind of health and tendency to particular diseases. This subject seems to me to deserve more attention from the directors of assurance companies than it has yet received.* Agents also would find their advantage in carefully studying the physical and mental man, if not to discover those who are liable to disease, at least to know among whom to look for assurers ; for they will find that of the four temperaments many more proposals will be given by persons of the sanguine and nervous, than of the bilious and lymphatic—the two former being more impulsive and amenable to persuasion than the two latter.

The temperaments being variable in regard to longevity, I will describe them in the order of their life value, the best first.

* In this age of photographs, might not the sun be taken into consultation, and a photograph of each proposer be placed opposite his name in the company's office ?

A. *The Nervous Temperament*.—The nervous temperament is characterised by the body being small and almost feminine, with narrow sloping shoulders. The bones are small, the muscles soft and fine, capable of sudden and great effort, but soon fatigued. Step short, quick, elastic; hands small, soft, and delicate, with firm hollow oval palms and taper fingers. Nose small and finely moulded, the nostrils inclining to the Grecian or aquiline types, delicately curved. Face oval, pale, often spotted with freckles, with a blush on each cheek in youth, but waxy in appearance after thirty-five. Countenance intelligent. Long large head, extending backwards, apt to become soon bald. Standing out ears. Long thin round neck. Hair silky, various shades of brown. Beard scanty, brown, auburn, or dark auburn. Deep, soft, finely curved lips. Weak, but distinct, fervid, tender intonation of voice. Small sharp pearly white rounded teeth, which are liable to decay soon. Large dark blue sparkling eye, situate near the nose, with much white, of a bluish shade, visible under the apple. When hair is a deep brown the eye is sometimes brown or hazel. Prominent forehead. Powerfully developed, arched, horizontal, eyebrows. Long eyelashes. Frequent winking or twitching of one eyelid. Circulation quick and easily agitated, so that many persons of this organisation believe they have heart disease, although little prone to it. Brain and nervous system remarkably active. There is a craving for companionship and continued excitement, for tobacco and snuff. If not fully employed, and the mind well balanced, strong stimulants are apt to be indulged in. Generally delicate when young, but after passing favourably through the temptations of youth and the anxieties of middle life, live to an advanced age. Indeed this is the longest lived of the temperaments.* Almost all the miners in the kingdom are of this constitution. They also form the bulk of our factory operatives or their longevity would be *even more* remarkable. Those who are in easy circumstances dress smartly, button up their coat, and are frequently seen wearing their hat on the side of their head.†

They are clever, sensitive, and aspiring, will give and take much flattery, have strong likes and dislikes, make good soldiers, novel

* Joshua Miller, aged 109, now living within two hundred yards from the writer, and Mrs. White, whom he knew in York, who lived till 108, were of this organism. An old lady in High Street, Gateshead, and another in Bigg Market, Newcastle, aged 103 and 105 respectively at death, were nervobilious. Other instances might be given; but these are from knowledge of the persons.

† This is in consequence of the shape of the head, which is larger on one side than on the other, from the brain in infancy having settled, through gravitation, to that side while the cranial bones were undeveloped and yielding.

writers, public speakers, professional men, merchants, or teachers. Weight for weight they are the strongest of men. This temperament is bequeathed to us by the Celts, or ancient Britons, and is seen more or less pure in Wales, Cornwall, the Highlands of Scotland, and in Ireland, where, however, the bilious temperament was infused into the south and west by the Phœnicians or Darkmen.*

The Celts are the oldest European race, being traced to Gomer, the eldest son of Japheth. They form the substratum of the English peoples. The several baptisms of the race with Belgians, Romans, Angles, Saxons, Scandinavians, Normans, &c., only improving, not supplanting or destroying, the ancient Britons. Indeed all the intruding races did not equal in numbers the original Celtic stock. The common impression that the ancient Britons were all driven into Wales, Cornwall, and the Highlands, is erroneous. Some of the most warlike were so, hence the stronger physique of the Highlander, Welsh, and Cornishman.

B. Bilious Temperament.—In this we have tall, masculine, spare, bony, muscular men, firm in flesh, and capable of undergoing great fatigue continuously. Large high cheekbones, long nose, often well-marked Roman, strong, long and broad underjaws, with often a sharp dimple in middle of chin. Large square broad front teeth. Firmly set mouth, especially the upper lip, indicating character. Head long and narrow; perpendicular, high, narrow square forehead. Neck long, thin, and angular, from the muscles standing out. Prominent, square, well-placed shoulders. Lungs more deep than broad. Black† coarse thick hair, often curly. Beard frizzled, strong, and heavy, sometimes blue-black, but generally a shade lighter than the hair of the head. Broad eyelids. Black or deep brown, rather hollow eyes, which possess a steady, keen, and penetrating power. Conspicuous, horizontal, bushy eyebrows. Complexion dark, or when in bad health, whitely, blue-white, or sallow. Long hands, covered on back with black hair. Long, hard, hollow, elastic palms, and large

* The description here given will be recognised to be the nervous temperament as seen in England, and often in Wales. In Scotland, in consequence of long continued feuds, the warriors for centuries looked out for the largest, most angular, and bilious women for wives; hence the high cheekbones and rugged forms there. In Ireland, peopled by low Celts, the nose is less developed; the upper lip deep, broad, thick, and prominent; the teeth large, projecting, and conspicuous; and the cheeks slope away from the high cheekbones to the angular lower jaw.

† Black from excess of iron, sulphur, and oil in it. The nervous comes next with regard to the amount of sulphuret of iron; the sanguine next; lastly, the lymphatic.

thumbs. Fingers square at ends, and large jointed. Vascular system largely developed. Blue veins, conspicuous in temples and hands. Circulation full, but slow. They are possessed of great energy and shrewdness. Talents more solid and reflecting than quick and brilliant. Mind irritable and passionate. Voice, a deep bass. Long firm step in walking. Impressions, physical and mental, indelible. Liable to consumption until thirty-five, after which the tendency becomes less until forty, about which age it seems worn out. In those with a proclivity to, or in the first stage of, consumption, the skin is thick, and looks dirty or muddy-white, the eyes are dull and prominent. The pupil being very large, and the iris black, the former only and the white of the eye are distinguishable. The cheekbones are high, the cheeks sunken, and the temples very hollow. The whole countenance is ghastly. The joints seem out of proportion large. The individual is listless, looks tired, and appears as if there was not strength enough to move the heavy framework. The mind, notwithstanding, is capable of protracted application.

This powerful organisation, which is capable of conceiving and accomplishing the greatest undertakings, is, I think, inherited from the Romans, who were osseous, muscular, stern, and self-possessed. Also from the Belgians, who settled along the south coast, and our Latinised Norman conquerors.

C. *Lymphatic or Phlegmatic Temperament*.—Are generally tall; when little, it is usually from shortness of legs. After thirty-five years, always heavy fat men, with broad high round shoulders, short neck, large deep chest, prominent abdomen, broad loins and back. Muscles large and lax, hair fair, often a pale yellow, occasionally brown, skin soft, and purplish white, head small, short, but broad and high, with wide, rounded, and often lofty forehead. Eyebrows weak and arching. Eyes small and blue. A white arc or portion of a circle around outer margin of iris, generally begins about fifty and gradually extends until it nearly encircles the pupil (wall eye). Long mouth, of a convexo-concave shape. Fleishy lips and nose. Ears flattened, and often purple. Face broad, round or almost square, and flushed crimson instead of the bright red seen in the sanguine temperament. Good regular teeth. Chin rounded, double, short and heavy, with one or two dimples and wrinkles. Scanty whiskers and beard. Voice often weak and wheezy. Hands thick, broad, fat, with spatula shaped fingers. Features deficient in expression. Phlegmatic persons are massive and lethargic in mind and body. Their style of walk is heavy and important. The dress corresponds with the man. It is easy, careless, and he will frequently be seen with his hat on the back part

of his head. Men of this temperament are generally butchers, farmers, shopkeepers, foremen, and are often aldermen. They are not enterprising or apt at invention, but plodding and industrious, they stick to the same business in the same place for a quarter of a century or more, until they acquire a competency. They are distinguished for hospitality, hilarity, piety, morality, a good memory, order, punctuality and cleanliness. Most seen in the centre and south of England. Descendants of the Angles and Saxons. Predisposed to apoplexy, paralysis, diseases of the heart, inflammation and congestion of the lungs, and skin diseases. In young men of consumptive tendency the lymphatic formation often presents the following appearances :—They are tall and thin, with prominent forward shoulders, large pupils, and full bluish white glistening eyeballs. Eyelashes long or eyelids are red and swollen without lashes. Complexion sallow or waxy, with a sickly flush on one or both cheeks. Fingers clubbed at ends, nails curved inwards. Gait and expression listless. The tumid upper lip and nose, the flabby face and protuberant abdomen indicate the lymphatic temperament, should the person be spared to represent it. It was the baptism of the Celts, and descendants of British born Romans with the Angles and Saxons, that has given to England its so called “John Bullism.”

D. *The Sanguine Temperament*.—Those of this constitution are, as a class, handsome and interesting men. Their stature is about five feet seven inches. The body is strong, muscular, and well-nourished. Chest very large in proportion to body. Shoulders broad, square, large, strong, rather high and set well back, throwing sternum forward. Neck broad, thick, and rounded. Head short but broad, apt to become soon bald. Forehead high, arched both horizontally and vertically. The eyes blue, grey, sometimes red or green, full, earnest, and transparent. Eyebrows rectilinear, far apart and situate near the eye. Nose broad, with dilated nostrils. Hair strong, red, chestnut or sandy, when it is often curly. Face oval, florid, expressive, studded with freckles. Cheekbones wide but well covered. Beard red, strong, and wavy. Chin broad, prominent. Mouth small. Lips thin, slightly open and pouting, of a rich red colour. Teeth small, short, yellow, even, and good. Arms long and powerful. Hands strong, broad, hairy on back, with long broad palms and short fingers. Walk firm and decided. Voice strong, with a quick clear decisive intonation. Bloodvessels large, circulation full and active, and the skin, being thin, is kept soft with perspiration. Mind is lively and active, but mutable, body prompt in responding to its desires. They are strong, athletic, ardent in their passions ; speculative, fond of feasting and

drinking, use superlatives, are always hopeful, require much air and exercise, are rarely ill under fifty-five years of age, or soon recover. This forcible temperament I believe to be handed down to us from the Danes. It is most seen along the east coast of England and Scotland, which is peopled by their descendants. It is also seen in Cumberland, Westmorland, Lancashire, Cheshire, and in the south-west, west, and north of Scotland, descendants of Norwegians. I have observed there, however, the following differences:—The head, face, neck, and person are longer, the forehead square, the cheekbones less covered. The hair is fairer, more sandy than red, and often curly. The eyes green, yellow, or a light blue, also that they are more liable to consumption than those of Danish ancestry. The best boatmen in the world are frequently typical sons of the old sea kings.*

If a number of men were bathing together it would be easy to say which stock each individual represented. The nervous man would be distinguished by the small spare form; head large and long in proportion to neck and size of body; fine drooping feminine shoulders and white skin. The bilious by the long, gaunt, hairy person, square handsome shoulders, long head and embrowned epidermis. The lymphatic by the general breadth and massiveness of person, by the short high head and pinky hue of cuticle. The sanguine by the breadth of shoulder and person in proportion to height, by the short round head, which is almost in a vertical line behind with the broad strong neck, and by the ruddy skin, of a yellow cast.

The following table will facilitate the study of the temperaments. The nervous and bilious having many points of resemblance; and the lymphatic and sanguine being also often much alike. Juxtaposition will be useful for the purpose of comparison. (See p. 22.)

Were the different temperaments unmixed, we might more easily estimate the life value of each example, but they are often blended by intermarriage. Their distinctive features are, however, none the less worth studying, for in every second, third, or fourth generation the types reappear according to the law of atavism. Besides, every man has such a decided leaning to one or other of the temperaments, that you will have little difficulty in deciding which is favoured.

If puzzled at first with what seems to be a well-balanced organism, consult "table" page 22, or consider the person to be Celtic, with a Belgian, a Roman, a Norman, (*i. e.* bilious), or Saxon, or Scandinavian

* It is almost needless to say that the form, the features, and the qualities of the mind, vary within certain limits, according to the class of society in which the person moves. Luxurious ease, lifelong study, or hard labour—each sets a certain stamp upon the physique and countenance of the votary or the slave.

additament, hence you would call the nondescript nervo-bilious, nervo-lymphatic, or nervo-sanguine in temperament, the nervous being the predominating temperament in Britain, and even in so-called Saxon England. Its general prevalence may be accounted for by the statement previously made, and believed to be correct, that all the intruding races together did not equal in numbers the original Celtic stock. Besides the arguments which Pike has adduced in support of this hypothesis, it is apparent that when one race takes possession by settling or by conquest of the lands of another, especially if across sea, there will always be more males than females among the trespassers, who, if of a superior physique, will find admirers among the resident females in the one case, or seize them by right of conquest in the other; the offspring of such unions from their surroundings will grow up more like the mother than the foreign father. To England it would seem but few women came among the entrants, hence Englishmen should be half Celtic. Besides, such Britons as did not fly before the conquerors were made slaves by the Romans and Teutons; and as each victor would, at the lowest computation, keep one slave, the peoples of England must be at least 75 per cent. Celtic. Again, by migration from Scotland, less Teutonised than England, and from Ireland, Wales, and Cornwall, almost unmixed Celts, a gradual but sure, and I think sensible return to the ancient nervous race is going on. I may add that all women, in civilised countries at least, are like the original inhabitants, and consequently all, or nearly all, Englishwomen are nervous. This rule has held except, it may be, in Palestine, where the aboriginal females were slaughtered in larger proportion than usual.

It may be objected to the racial solution now suggested of the derivation of temperaments as seen in Great Britain, that Aristotle and Galen wrote on the temperaments and their relations to states of health. To me this only proves the tendency which exists in races, seemingly as a development of caste to separate into two or more varieties, each of which, after a time (especially if a mountain be interposed) harden into a coherent nationality, possessed of attributes of body and mind notably distinct from the original. It also indicates that the Greeks, although a nervous race, and the Romans, who were a bilious one, were composed of mixed peoples. We do not know how many thousand years are required to indurate a sept into a people recognisably distinct from the original stock, but the same propensity which occasioned the differentiation will instinctively resist amalgamation. This probably explains why, in many places, *e. g.*, the centre of England and Scotland, but especially in Wales, such an antipathy is felt among country people to red haired persons, quite

TEMPERAMENTS.

	NERVOUS.	BILIOUS.	LYMPHATIC.	SANGUINE.
HEAD	Large, long, and narrow; forehead prominent; back of head elongated; ears thin and standing out.	Long and narrow; forehead square, perpendicular; temples hollow.	Short and small, high from nose to crown and broad from ear to ear; forehead rounded; ears small, flat to head.	Short and broad; forehead rounded from nose to hair, and from temple to temple.
HAIR, BEARD, AND WHISKERS.....	Different shades of brown; beard reddish-brown, often scant; whiskers often weak.	Black, coarse, and wavy; beard black, heavy, strong, and frizzly; whiskered up to eyes.	Fine, fair, or pale yellow, sometimes brown; beard light coloured; weak, thin whiskers.	Strong, red, or sandy, and curly; beard heavy, red, and wavy; cheeks well covered with whisker.
FACE	Intelligent, long, pale, often freckled; nose, nostril, and lips, finely moulded; strong horizontal eyebrows.	Swart, long drawn, cheek-bones prominent; nose often Roman; lips expressive of firmness; strong under-jaw.	Pale in youth, afterwards purple; square, massive, and inexpressive; nose long and fleshy; lips fleshy.	Ruddy, freckled, oval, expressive; nose broad; nostrils dilated; chin prominent and strong; lips a rich red, thin, and pouting.
EYES	Large, dark blue, sparkling, sometimes hazel; much white seen, bluish and glistening; little space left between them.	Dark, commonly called black or brown, penetrating; sharp eye-basin; conspicuous horizontal eyebrows.	Small; light blue; often "wall-eyed" after 50; eyebrows weak and arching.	Blue, grey, or red; full, earnest; eyebrows rectilinear, far apart, and near the eyes; apt to become "wall-eyed."
TEETH	Small, pearly white, sharp, often rounded at corners and from side to side; soon decay.	Long, broad, and square-shaped.	White, regular, and good.	Short, broad, yellow, even, and good.

NECK	Long, thin, and round, like a lady's.	Long, angular, and hollow, from the muscles standing out.	Short, round, thick, and massive.	Short and very broad, swelling out on either side to the shoulders.
SHOULDERS.....	Narrow, fine, sloping, and feminine.	Square, sharp, well placed, and handsome.	Broad, high, and round.	Broad, rather high, well back, and very strong; arms long and powerful.
HANDS.....	Small, soft, delicate, with firm, hollow, oval palms, taper fingers, and fine nails.	Long, strong, bony; palms long, hard, hollow, and elastic; thumbs large; fingers long, square at ends; blue veins conspicuous on back, which is generally hairy.	Palms broad, fat, and heavy; spatulous fingers, with short, broad, square nails.	Long palms, short strong fingers, skin soft, back downy, with light hair; short bright rose-coloured nails.
ABDOMEN	Thin, generally becoming more so as age advances.	Long and hollow; have smart waists.	Rounded, large, and aldermanic, from the large volume of intestines.	Inclining to prominence, from the size and activity of digestive organs.
STATURE	About 5 feet 5 inches to 5 feet 6 inches.	Generally from 5 feet 9 inches to 5 feet 11 in.	From about 5 feet 7 in. to 5 feet 9 inches, or more.	5 feet 6 inches to 5 feet 7 inches; those of Norwegian descent 5 feet 7 inches to 5 feet 9 inches, or even more.
VOICE	Weak, but distinct and tender.	A deep bass.	Strong in youth, becoming slow, calm, and often weak.	Strong, with a quick, clear decisive intonation.
MIND	Emotional, ingenious, apt, sociable, mutable, and restless.	Stern, morose, solid, mechanical, and often deeply passionate.	Cheerful, business-like, and steady; no whims intrude.	Lively, versatile, hopeful, speculative.
HEALTH	Delicate in youth, but after 30 or 35 are much the best lives.	Delicate until about 35; after that good lives; often hippled and melancholy from slight causes.	Good until 58, when fatty degenerations begin to impair health.	Robust until about 55, after which liable to suffer from heart and brain diseases.

irrespective of, and even opposed to fashion. This attraction of cohesion in a consolidated unity has, doubtless, much to do with election in love affairs. Matrimonial affinity may be in great part the cause why the inhabitants of Britain are not homogeneous, why a typical Englishman or Briton is not to be found, our grand titular "John Bull" notwithstanding. Model representatives of each tribe of the invaders still stand boldly out, and to this day are to be found massed where they were most numerous one thousand years ago.* It would therefore seem that race stocks do not mix; that racial hybridity is resisted by extinction or return to the original type, *e. g.*: A lymphatic man marries a woman of nervous temperament; either they have no issue, or the children are lymphatic or nervous; or depuration may occur in the grandchildren, who may be striking representatives of the ancestral Teuton or Celt.† Yet the nervous and lymphatic temperaments are the best correlates and interact most beneficially upon each other, the former or Celtic giving nerve, the latter or Saxon, muscle and stature.

The characteristics of the temperaments are less recognisable after fifty years of age, from the hair becoming grey, the eyes lighter in colour, the shoulders round, the person fat or lean, etc.; but the long head cannot change into a round one, nor the short person become tall. The mind will remain the same, and the state of health will also aid observation. I would here observe that a temperament, *e.g.* the nervous, will not, under ordinary circumstances, be nervous, in the usual acceptation of that word. It is called *nervous* because full of nerve—strong. It is only when its powers are too much called upon that the brain and spinal marrow suffer, or nervous excitement supervenes. Nor is the bilious constitution the diseased-looking object drawn by Lavater. Tastes are various, but I would call the bilious man the best specimen of the genus *homo*. The lym-

* It has been well observed by a distinguished anthropologist that railways, instead of tending to mix the population, rather render migration unnecessary.

† Fowler gives a remarkable instance in point. Two gentlemen were introduced to each other, who had such an extraordinary resemblance that a stranger could scarcely distinguish the one from the other. Upon tracing their genealogy back, it was found that they were descended from the same ancestors of five hundred years before. No intermarriages had occurred during the interval, one line having lived in England, and the other in Canada. This occurs in nations as in families. You can tell at a glance a Frenchman, an Italian, a Dutchman, a Dane. The French, who are a branch of the same race with the ancient Britons, are nervous; the Italians bilious, though more effeminate than the old Romans; the Dutchman phlegmatic; and the Dane still sanguine.

phatic and sanguine men are always fine examples of manhood, but soon after fifty years of age become liable to diseases resulting from fatty degeneration.

In order to utilise the preceding description of temperaments, I had drawn out a table exhibiting the diseases to which each is most liable, but upon revision, before despatching it for the present number of the *Anthropological Review*, I discovered some errors which could not be corrected without more minute information than the Registrar General's reports afford. As the required particulars have not yet come to hand, I must content myself with giving results which can be arrived at upon such data as are available, omitting the details with regard to causes of death. To find the following estimation of the relative value of life in individuals of each temperament, I have taken North and South Wales, Monmouthshire, Cornwall, and the Scotch counties of Inverness, Aberdeen, Perth, and Argyle, with a united population in 1861 of 2,202,975, as representatives of the nervous temperament, and they may also be taken as the standard for females. The West Midland counties of England, viz., Gloucestershire, Herefordshire, Shropshire, Staffordshire, Worcestershire, and Warwickshire, with a population of 2,436,568, as representatives of the Saxon and lymphatic temperament; and Lincolnshire, the three Ridings of Yorkshire, Cumberland, and Westmorland, with a population of 2,685,906, to represent the Scandinavians and sanguine temperament, forming altogether 7,325,449, or more than one third of the inhabitants of Great Britain, if we exclude the mixed community in London. I have not been able to calculate the relative life value of the bilious temperament in the same way, as it is distributed generally throughout Great Britain. It is, as already stated, most common along the south coast of England, but even there its representatives are not sufficiently massed for local statistics to afford reliable information. I have therefore placed it as accurately as I could from my own observation. The nervous temperament is tolerably pure in the areas taken. I have superadded the death rate in Ireland. First, among 2,253,436 Celts (with a slight admixture of the bilious temperament), who inhabit the three western districts, and, secondly, in 3,545,531 partially Teutonised Celts, living in the other five divisions of the island. Although the death rate in the first three divisions is low, it is equal to what ought to be the normal mortality, viz., 14 or 15 deaths per 1,000 living. I do not, however, intend founding any arguments upon its near accordance with what is assumed to be the healthy death rate, for there having been only one report issued as yet for the sister isle, many deaths were doubtless unrecorded. The West Midland counties of England are selected as the lymphatic area, because

2,400,000 Saxons cannot be found equally pure in any other part of England. The South Midland, or south-eastern counties, or picked counties out of each might have been taken, but the former contains so many of Danish ancestry, and the latter a large proportion of Belgian descent, that an adequate number of pure Saxons could not be had for comparison with the other temperaments. There are more Celts in the West Midland counties than the average in the rest of England; but this only tends to improve the longevity of the Saxon counties, and will make their death-rate a better guide to the life value of the most common mixture of temperaments in England, namely, the nervo-lymphatic. It will also aid in counteracting the high rate of mortality in Birmingham (26 in the 1,000). The sanguine constitution is likewise considerably modified by a large admixture of the lymphatic in the West Riding of Yorkshire, and by a diffuse Celtic population; this again will help to rescue it from a still higher death-rate, and will be advantageous in rendering the result more like what we find in a town, or mixed population. The association with a healthier people also serves as a correction of the high death rate in Leeds and Sheffield.

*Death-Rate of the Temperaments, exhibiting the Number of Deaths in each out of 1000 living, in 1867, from the Registrar-General's Reports for Great Britain (last Reports).**

	Deaths per 1000 of the population, both sexes.
Nervous Temperament.—In the three western divisions of Ireland, Celts, with a slight admixture of the	
Bilious temperament	14.216
„ „ In Eastern and Midland divisions, Celts, associated and baptised with Teutons...	17.800
„ „ In Wales, Cornwall, Monmouthshire, In- verness, Aberdeen, Perth, and Argyle...	19.999
Bilious Temperament.—Throughout Great Britain (estimated).....	20.400
Lymphatic Temperament.—In the West Midland counties.....	20.905
Sanguine Temperament.—In Lincoln, Yorkshire, Cumberland, and Westmorland.....	22.999
Average death-rate for the year 1867, England and Wales	21.977
Average death-rate for England for the last thirty years	22.420

Supposing the Irish returns to be correct, three more Teutonised Celts, and six more British Celts die per 1,000 annually than among the Western or purest Celts. But, taking the British Celts as the standard for the nervous temperament in England, 1.978 less per 1,000 died in 1867 than in all England; .401 less than the bilious;

* Corrected according to increase of population since 1861.

·906 less than the lymphatic ; and 3·000 less than the sanguine. According to the Carlisle tables, I make the expectation of life at 30 years of age,

For a person of the	YRS.	MOS.	YRS.	MOS.
Nervous Temperament	68	6,	or a Generation.....	50 0
Bilious ,, about	67	8,	or a Generation.....	49 0
Lymphatic ,, 	66	9,	or a Generation.....	47 9
Sanguine ,, 	63	4,	or a Generation.....	43 6

The representative divisions selected having only four large towns, their united death rate averages ·702 per 1,000 less than that of all England ; therefore, to calculate the expectation of life for a resident in a populous or unhealthy town, it would be necessary to deduct six years from that given above, more or less, according to the temperament, and other circumstances. The proportion of deaths in each of the temperaments, of 65 years and upwards, tends to substantiate the above estimate.

Nervous Temperament in Ireland	277·5	in every 1000 deaths are over 65 yrs.
Nervous Temperament in Britain	263	,, ,, are over 65 yrs.
Bilious ,, about	240	,, ,, are over 65 yrs.
Lymphatic ,, 	210·5	,, ,, are over 65 yrs.
Sanguine ,, 	191	,, ,, are over 65 yrs.

Exception may be taken to the foregoing tables, in consequence of the conditions of life not being the same in each of the areas selected to represent the temperaments, therefore no dependence can be placed in the results ; that to be accurate in conclusions of such moment, individuals should be nicely chosen, living in the same place, equal in age, and social position, &c. To these reasonable objections I would reply that, from the nature of the inquiry, exactitude cannot be obtained, but I have endeavoured to come near it. I have given some attention to the meteorology, geology, manufactures,* and other cir-

* In the Celtic area, lead and copper miners, aged 30, have about six years shorter expectation of life than the English average ; slate quarrymen four to five years less ; coal and iron miners, two years ; iron workers, one year. Flannel weavers, on the contrary, rather exceed the expectation. In the West Midland counties, potters and glass-housemen three years less than the average ; miners, two years ; iron workers, one year ; while silk and other weavers live two and a half years beyond the Registrar-General's estimate for all England. In the Scandinavian districts, at the same age, the shortest lived are the razor, knife, fork, and scissor grinders and file cutters of Sheffield. Next come the mill operatives and blacksmiths, three years less than the average ; miners, two years ; spinners, one year ; mill-wrights and wool workers, better than the expectation. Woollen weavers have two and a half years longer expectancy than all England, or about three and a half years more than the area as a whole.

cumstances which would affect the health of the representative areas, and do not think that much advantage rests with any one of them. In the matter of population, *e.g.*, the Celtic is the rarest, and the Saxon the densest; but whatever benefit might accrue to the Celt from the sparseness of habitations is counteracted by over-crowding, viz., by the greater number of families in a house and in a room than in the other districts. Where there is no overcrowding, density of population alone does not produce a high rate of mortality (more than 20 in the 1000). London, with 3,082,372 souls located on 78,000 square acres—*i.e.*, 39 persons to the acre—has the same death-rate as the sanguine area, with 2.4 acres to each individual. I may add that I have studied the temperaments in the north, south, east, and west of England and Scotland, also on the Continent, and that a table which I have spent much time in preparing relative to temperamental health, taken exclusively from urban populations, shows congruous results with table p. 27. I have, however, preferred taking the Registrar General's reports as the basis on which to form conclusions. Should my view of the derivation of temperaments as seen in Britain not be accepted, I would still ask credence to the life value assigned to each temperament. All the calculations have been made from an average of both sexes. Females are better lives than males, their average death-rate for the last 30 years being 21.51, against 23.33 per 1,000 males. After 30 years of age females may be calculated to be about equal in regard to life expectation with the nervous temperament.

QUATREFAGES ON THE PROGRESS OF ANTHROPOLOGY.*

A CURIOUS and interesting result is recorded at p. 307 of the examination of heads found in the fosse of the Morgue, most of them being those of suicides, which exhibited superior characteristics, and to the passage we must refer the reader. The shape of the skull is alluded to as indicative of the character of the race. We are, however, subsequently told,—“Much more marked (*accidentée*) than the skull, the face affords observations still more numerous. Each of its traits merits our attention, if we were writing an elaborate (*détaillé*) work. . .

* Continued from page 239, No. xxvi.

In the craniometrique tables of M. Pruner-Bey, eleven measures are attributed to the face, properly so called, not comprising the forehead." (P. 309.) "The head and the face together supply other characters of great importance to be regarded" (*d'une appréciation moins délicate*), (p. 307.)

After a discussion respecting the radical cranial difference between men and monkeys, we are told that as regards the difference between men and women, "everything else being alike, the brain of the woman is a little less heavy than that of the man, and M. Broca has shown that it is so also at all the different ages of life." (P. 323.) It would be important as well to ascertain and to demonstrate, which a minute and careful inquiry might effect, the actual and essential difference, if any, between the precise texture, and the temperament also, of the brain of those of different sexes, and to trace its direct influence on the character of both. This should be pursued in the case of animals, especially the larger ones, as well as of man. Probably the difference would be found pretty nearly analogous to the difference in the respect alluded to of the general natural frame. But this is matter of conjecture only, and the subject is too important by far, alike to the physiologist and the anthropologist, and possibly to the jurist as well, for us to be satisfied with any but the most conclusive facts that can be obtained. Comparisons between the brains of negroes and those of Europeans are subsequently instituted (pp. 326-330). In the section on "reports of the brain relative to intelligence," it is inquired whether "certain points are not more or less exclusively reserved for the exercise of each of the intellectual faculties, and up to what point of intelligence is the development of the material organs, which serve for those manifestations, either together or in detail? . . . In general one seems to accord a certain intellectual superiority to man when the head presents a marked (*prononcé*) development." (P. 334.) Gall and Spurzheim are, however, condemned for "the application they have made of the principles" of the science, while "the principle itself" is pronounced to be "independent of that application, and ought to be regarded as true to an extent which yet remains to be determined." (P. 335.)

On the subject of the exercise of the mind, it is remarked with truth, and which experience and observation will serve to establish, that "attention, however rapid, is successive, and not simultaneous." (P. 336.) In regard to what has been erroneously termed the faculty of language,—a term made use of by phrenologists more especially,—M. Dalby, we are told, has well remarked, in reference to the nervous system connected with the leading functions of a living being, seeing that the brain is not an organic creator of ideas, but an organic

transformer of impressions, that the faculty of language is a result, and not an elementary property. (P. 337.)

An ingenious and practical suggestion, we are told, was made, to inquire at Paris, of one of the principal makers of hats, as to their average size, when it appeared that they were longer and larger than the dimensions of the head of Cuvier. "He sold every year a certain number of hats, which evidently were not all sold to men of genius. The volume of the head, and that of the brain, are very far, it would seem, from being the strict measure of intelligence." (P. 341.) In the case of brain, indeed, and it is so in many other cases, energy appears more important than the quantity. (P. 342.)

Among all the different human races, the period of gestation appears to be the same. (P. 343.) This fact is adduced by our author as an argument in favour of the unity of the human species. It further appears that, no particular causes operating to create a difference, the average duration of human life is much the same in all the various races of men. (P. 348). The majority of diseases are also common to people of different races alike. (Pp. 351-352). These two latter facts may perhaps be cited in favour of the unity of the human species. They prove unquestionably the affinity between different races, and are in favour of unity so far only as this affinity is of itself a proof of the unity.

On the subject of mixing or crossing races, the following interesting fact is recorded :—"We may remark, in passing, as to the extent of crossing, that when he possesses, in consequence, three quarts of white blood, the man of colour is intellectually equal to the purely white man." (P. 354.) The following curious circumstance is also related :—"Certain people isolated in the middle of the sea, and rarely visited, pretend that the arrival of a stranger occasions a sensation of cold. In Europe the inhabitants of St. Hilda (Hebrides, McCulloch); in the ocean the Tahiti (Van Couver); the Maoris, (Diftenbach) experience the same sensation." (P. 359.) Sickness is also said to break out on the arrival of a strange ship, although the crew is in good health. (*Ib.*) It is, moreover, a singular circumstance which has come within our own knowledge, that many of the same superstitions which are to be found in the remote islands alluded to, and which are common also to the North American Indians, will be found among our own sailors, and those of Holland and France, as well as among the peasantry of those countries, and even among our own.

In the chapter on "intellectual characters" we find it remarked that 'animals have voice, man only speech.' This truth, proclaimed by Aristotle, is universally accepted in our day. All the world acknowledges that language is one of the highest attributes of the human species. The

languages, that is to say, the various forms that language assumes among different human races, their subdivisions, their ramifications, have for the same reason, as differential and characteristic facts, an importance by themselves." (P. 363.) One theory which is referred to, assimilates the language of men to the singing of birds, and the different cries of animals. (P. 366.) The process of language is next traced from the vocabulary to the grammar, and thence to the language complete. (P. 368.) In regard to the common origin of different languages we are told that "The community of a single word has not any signification ; but the probability of a common origin is already three to one when there are two common words ; more than ten to one when there are three. When the number of common words is six, the probability is more than seventeen hundred, and near an hundred thousand when it is eight. It is almost certain that, when there are eight words common to two different languages, they originally belonged to the same language." (Pp. 369, 370.) Languages are here comprised into "monosyllable, agglutinative, and that of fluxions." (P. 370.) "Also there exist three linguistic types, as there are three physical types, the black, the yellow, and the white." (*Ib.*) "The monosyllable languages represent the most rudimentary human languages." (*Ib.*) Writing is, so to say, to speech what that is to thought. (P. 372.)

The last chapter contained in the third part of this work which is entitled "Characters moral and religious," is one of great interest and great value. Reference is here made to the higher moral state of savages, in many instances, than that of civilised man. (Pp. 402, 403. The outrages and immoralities practised by so-called civilised people against barbarians, are here, of course, alluded to ; and the exalted moral tone found to exist in certain of these nations, both as regards their laws and their line of conduct, contrasts strongly and strangely with the dishonesty and laxity exhibited by the (by courtesy) termed Christian and civilised persons who invade their territories, and who find these people whom they so condemn and perhaps try to convert, in no way deficient either in sense of shame or sense of honour. (P. 406.) Some admirable and very forcible remarks will here be found on the subject of the erroneous and imperfect notions which we possess respecting the religious opinions and feelings of certain barbarous nations, more especially as regards a future life, and the notion of a God ; and the rash and injudicious course of conduct too often adopted by some of our missionaries. "The lively faith of the missionary is frequently also a cause of error. Whatever may be the Christian communion which he represents, he generally arrives among a people whom he desires to convert, having

a hatred of their belief, and which he regards as the production of a demon. Too often he does not inquire, nor take any account, much less know anything about them. His sole object is to eradicate these opinions. In his eyes there is but one religion, for theirs is not a true religion." (P. 409.) The laity, however, our author seems to think, understand these people better. (Pp. 410-411.) And he well observes, in a subsequent page, that,—“in the scientific study of religions, it is necessary to be careful against proceeding after the fashion of the physiologist, who having obtained his experience from the vertebræ, refuses to recognise among the inferior animals the functions of an animal, because they are more simple and more obscure.” (P. 424.) He maintains that any people is entitled to be termed “religious” if they believe in a supreme being, and a future state. (P. 425.) Burouf, he informs us, distinguishes religions into great and small. In the first he includes the Christian, Jewish, Mahomedan, Bramish, and Buddhist. The others are classed in the second division. M. d’Avezac records of the Yebons that “they believe in a supreme being, who is one, the creator and governor of all things, and to whom they address daily, and in a humble posture, a prayer, which is indeed universally (*nationale*) used, and which any Christian might repeat. They also believe in another life, in which punishment is inflicted on the wicked, and rewards are reserved for the good. The Boschmien also recognise the existence of one *Kaang*, or chief, who resides in heaven; and they say to him, ‘Thou that seest not with the eyes, that understandest the heart.’ With these people death is but a sleep.” (P. 430.)

Professor de Quatrefages, in another part of his work, makes the following very sound and sensible observations upon the intercourse of Europeans with heathen people, and the erroneous opinions which we are too apt to form concerning them.

“The most frequent cause of error, to which I believe I ought to call attention, has its source in the high opinion which the European has of himself, together with the contempt with which he generally receives the report of other people, and, above all, with which he treats them, whether barbarous or savages. For instance, a traveller, who generally speaks their language very badly, will interrogate some persons upon the delicate questions of the Divinity, a future life, etc. Those of whom he inquires, not understanding him, will exhibit signs of doubt or of denial, without any real comprehension of the questions put. On his part, the European misunderstands them; to him they only appear degraded beings, incapable of any except the lowest conceptions; and he will conclude, without any hesitation, that these people have no notion either of God or of another life; and his assertion, shortly repeated, will be readily received as true by

those readers who consider these people strangers to our civilisation in nearly the same way that he does. The history of travellers supplies us here with numerous examples—Hottentots, Caffres, Bechmanns." (P. 408.)

"Mixed Races" form the subject of the fourth part, of which the first chapter treats on "the general phenomena of mixed breeds in the human race." Our author here remarks that "in ordinary marriages, the general hereditary tendency, both with father and mother, is to reproduce the being entire. When two races of animals or vegetables cross themselves, that is to say, when the parents possess different characteristics, there is necessarily a contest; and that contest is so much the more lively as the races are more distinct one from the other. Each of the parents endeavours to transmit all its characteristics to its produce. This must necessarily be the result where there is a compromise between these two tendencies which are contrary, and sometimes opposed." (P. 437.) He subsequently observes that "the consequence of this double action will be this result, that the character which is engendered will differ very notoriously from the correspondent character in the two parents." (Pp. 437, 438.) He then proceeds to trace the results of cross breeds through successive generations, more especially in "the fusion of certain characters, the juxtaposition of certain others, and the appearance of new characters which did not exist in either of the two parents." (P. 438.) He here remarks—"It is impossible for me not to be struck with the little attention paid to the influence of morality upon the life of generations." (P. 446.)

"The general character of mixed races" is treated on in chapter II. He here states,—“We have already remarked that the crossing between human races prevents in a high degree the default of uniformity in the productions observed with vegetables and with animals. . . . In a crossed union, the products are more easily of a single type when the parents are not simple varieties of the same race.” (P. 450.) In the case of a marriage between a negro woman and a white man, the son “resembled the father in intelligence, and his instincts generally.” His “physical being was negro, his intellectual and moral being white.” (P. 451.) In the section on “the influence of father and mother,” it is remarked that “when two human races meet, it is very seldom that they are equal. . . . the superior race supplies the father, the mother belongs to the inferior race.” (P. 452.) We are also told that “each parent has a tendency to transmit to its offspring those of its characteristics which rule over the corresponding characteristics of the other, at least when special circumstances do not produce a contrary normal hereditary action.” (P. 453.)

The third and concluding chapter treats on "the general results of crossings in the human race." The effect of consanguineous marriages is discussed, and some interesting results are disclosed. We are moreover told that "if a disease exists in both the parents, and is of the same nature, it increases still more in the infants." (P. 462.) The Arabs are pointed out as the purest race on the face of the globe. (P. 466). Some trite remarks on civilisation, ancient and modern, are to be found in this chapter. The mixed races, it is said, have done the most to advance it. "Indeed, each new mixture engenders a superior civilisation. . . . The pure races which we have seen peopling Europe have all come to a state of barbarism." (P. 488.) He concludes, therefore, that the crossing of the human race is a grand cause of progress. And he refers to different nations, particularly the Americans, in support of his theory. That the infusion of white blood will produce intelligence, that of black blood vigour, we presume to be the principle on which he proceeds.

In the appendix to this very valuable and comprehensive work is discussed at large "the application of the natural method to the classification of the human races." The effect of the fusion and mutual crossing of characters, is inquired into here. Our author remarks on this head that "it is necessary to apply the *natural method* rigorously to the human races, such as the zoologists and botanists of the present day recognise. That is to say, in the researches which they carry on, it is necessary to take into account all the characteristics, not to neglect any, to determine their relative value, and not to come to a decision until after having studied them in the most complete manner possible." (P. 499.)

Such is the work before us, the general contents of which we have endeavoured to make known to our readers, presenting an analytical view of it as far as was practical during the progress of our discussion of its merits. The various points urged we have boldly challenged, where they appeared to us to be to any extent tainted with error, and have freely canvassed the arguments adduced, as well as carefully examined the important and varied facts which are here collected together. The production of this vast undertaking,—vast rather from the amount of labour and of thought which its production must have cost, than from its actual literary dimensions,—must have been the effort of a life, although, in the performance of his task, the author has doubtless been animated far more by the ardent love of science, than by the hope of any adequate pecuniary recompense. Grateful, therefore, ought every Anthropologist, every philosopher, every man who studies human nature, or who desires to understand his own nature, to feel to the writer of this profound and masterly exposition of the first

and greatest of all the sciences. Whether we consider the matter which has been amassed, the researches that have been instituted, or the reasoning and reflection evinced, the work must be pronounced to be one which alike does honour to the author, and reflects credit on the age in which it was produced. Not only to the material, but to the mental and moral branch of the science, the present treatise is, moreover, of great value. As regards this branch of the subject, the facts are important, the speculations original, the reasonings acute, and the conclusions sound. As a compendium of the entire science of Anthropology, it is indeed of the very first importance. It has reduced to a system what before was scattered in disjointed treatises; and has called out of chaos, and arranged in order and symmetry, the loose and shapeless fragments which have been hitherto floating about. Professor De Quatrefages stands foremost in the noble rank of those pioneers of philosophy, who have conferred a benefit on mankind with difficulty to be estimated, by boldly entering and exploring certain of those trackless, and as yet unexplored regions of science, which none before him have dared to invade; and his great work must long remain as the most durable and most suitable trophy of his grand triumph in the cause of philosophy, by which his most ardent admirers could desire to see him honoured.

REPORT OF THE TRANSACTIONS OF THE SECTION FOR
ANTHROPOLOGY AND ETHNOLOGY, AT THE
CONGRESS OF GERMAN NATURALISTS
AND PHYSICIANS.*

At the sitting of September 20th, Professor V. Carus treated of the scope of anthropology and its necessary connection with archæology and geology, of our scanty knowledge of the anatomy of races, of the still imperfect method of cranial measurement, and of the cautious application of the affinity of languages, as recommended by Max Müller. Even the fact, that all races produce by their intermixture fertile bastards, is not yet fully established. With reference to the antiquity of the human species, and animals contemporaneous with man, we should not neglect popular traditions—those of the

* Held at Dresden from the 18th to 24th September, 1868. (Abridged from the Report of Professor Schaaßhausen in the *Archiv für Anthropologie*, vol. iii, 1869.)

dragon, for instance. Councillor von Brandt observed that the legend of the gryphi which, according to Herodotus, guard the gold in the Ural, perhaps, refers to the rhinoceros. A passage in the *Antigone* of Sophocles refers to the domestication of *bos primigenius*. Dr. Schleiden expressed his opinion that these old traditions are not purely imaginary, but rest on an historical basis.

At the sitting of September 21st, Dr. Weinhold read a paper, communicated by Herr Fr. Rhode, "On the Origin of Traditions of the Dragon."

Dr. Schetelig delivered an address "On Race Differences in the East of Asia." We must distinguish between the Malay and the Polynesian element. The population of the Sunda Islands, in the Malay Archipelago, possesses a pleasant exterior. The face is more broad than oval, without projecting cheek-bones, and indicates an infantile nature. They are more inclined to navigation than to agriculture. Marriages with Europeans seem to be fertile, and to improve the race. The disinclination of the Malays to hard work favours the immigration of Chinese. The Polynesian Archipelago cannot be easily limited, and the description of this race by external marks is difficult. The physical character is more child-like and indolent. That there is a close affinity between the two races is fully established. The Malay skull has small zygomatic bones, a very constant base-length of ninety-six to ninety-eight *millimètres*, a constant equal height, a so-called false prognathism, mostly a flat roof, and the occipital squama and parietal bones form two planes standing almost perpendicular to each other. The Polynesian skulls, which are by no means confined to the Carolines, are immoderately long, nearly two hundred *millimètres*; the base is also long, very narrow, moderately high, with great breadth of the zygomatic bones. The skulls are always heavy and massive, compared with the thin Malay skulls. Viewed in profile, the contour is arched; viewed in front, the skull is roof-shaped. Deviations from this type are due to foreign influences. The Malay and Polynesian races are thus allied by language, but separated by cranial formation.

Dr. Ehlers confirms the differences of the cranial form, and asks the reason of the obliquity of the Malay skulls in the collection of Blumenbach at Göttingen.

Dr. Schetelig replies that the Malay skull is so thin that it may well have been flattened in early infancy by sleeping on one side, which produced no such effect on the thick skulls of the Polynesians. Transitions between both cranial forms are unknown, except in the Sandwich Islands.

Professor Schaaffhausen observed that, after examining the skulls

in various collections, he had arrived at the same conclusions. Some, following Rudolphi's proposal, have dropped the Malay race; but it has a distinct cranial form, certainly not arisen from intermixture—a form which, in outline and some peculiarities, most approaches that of the orang, and which is strikingly seen in the skull of an idiotic Malay woman in the museum of Leyden, and described by Halbertsma. All Austral negroes, Papuas, Australians, and Van Diemenlanders, are allied by their cranial form, and separated by it from the Malays. Yvans had proved that the handsome physical form of some chiefs and aristocratic families in the Indian Archipelago is due to Arab blood. Despite the simian resemblance, the rotund Malay skull, which corresponds with the delicate bodily structure of the race, stands higher in development than the Polynesian skull, the form of which is produced by a greater development of muscular force. Cook and Forster had already distinguished the light brown and black races of the South Sea Islands. As regards the obliquity of the skulls of Asiatic people, Von Siebold had already expressed the opinion, that in the Japanese it resulted from sleeping upon a wooden block scooped out for the reception of the head. Halbertsma said that the asymmetry of the Japanese skulls did not arise from one-sided synostosis, but from external pressure upon the soft skulls of the children, who from the second year sleep on the hard ground. Of one hundred and twenty-five skulls, there were but nineteen symmetrical; two-thirds of the oblique skulls were flattened on the left side. The frequency of asymmetry in the skulls of the insane was to that of the sane as 3 : 2, so that it seems to influence mental development, as asserted by Foville and others with reference to French skulls deformed by pressure—a view which is denied by Morton and Townsend with reference to Indian skulls. The softness of the skull of Asiatic peoples, which was already known to Herodotus, probably arises from some unknown cause in the nutrition of these people.

In the sitting of September 22nd, Herr von Braudt made some remarks on the Reindeer, the Bison, and the Auerochs. The reindeer lived still, according to ancient authors, in Germany at the time of Cæsar. Lartet commits the fault of confounding the Bison and Auerochs, although he founds upon them separate periods. Dr. Weinhold, at the conclusion of the sitting, remarks that the notions touching the terms anthropology, ethnology, and ethnography, are still unsettled and often misapplied. The psychical part must not be neglected in anthropology, as psychical manifestations are of the greatest importance in judging of the capacity for improvement of the so-called inferior races.

At the sitting of September 23, Dr. P. Gleisberg showed a *partial*

microcephalic skull, and an entire cast of a microcephalus sent by Professor Reichenbach. Dr. Gleisberg defined Cretinism as an endemic congenital imbecility, in which, in different degrees, the thyroid gland, the skeleton, the skull, the nervous system, especially the brain, is affected. The thyroid gland presents mostly a cystous degeneration. In the osseous system all kinds of changes are perceived, which may be reduced to inflammatory disturbances, namely, hyperostotic, osteomalaceous, rhachitic processes. The pathological processes in the nervous system are also predominantly of an inflammatory nature. These three conditions are combined in every possible degree in every instance of cretinism, so that, whilst the one has only a goitre or a hump, or is only so far obtuse, to occupy as "a blockhead" a place in human society, another may present the highest degree of imbecility combined with rhachitic deformed limbs, and considerable hypertrophy of the thyroid gland. Still the imbecility stands in no direct relation to the tumefaction of this gland, as there are many cases in which there is goitre without imbecility and *vice-versa*. Touching the pathology of the Cretin-skull, Gleisberg is of opinion that micro- and hydro-cephalus arise from the same source and only represent different degrees of the same condition. Microcephalus is mainly produced by premature closure of the cranial bones, when, in consequence of chronic inflammation, the bones coalesce, by which the further growth of the skull, especially as regards its capacity, is obstructed. Under certain circumstances the result is a considerable reduction of the anterior cranial capacity. If only one or only two cranial sutures coalesce, as in this case the coronal suture and the right squamous, we have the *partial* microcephalus. If, on the other hand, there is a premature closure of almost all the sutures, we see the *perfect* microcephalus, in which the cranium is sometimes changed into a deformed, thick walled osseous capsule, scarcely as big as a man's fist. There exist, however, instances of microcephali in whom, in consequence of an arrest of osseous growth, the cranial bones do not coalesce during the whole life. Often there is a complication of microcephalus with external hydrocephalus. Too early a closure of the speno-occipital suture produces brachycephaly. The second factor of cerebral affection in Cretins is an inflammation of the brain and its membranes, originating during foetal life, and which, by more or less profuse secretion of water in the arachnoid and the ventricles, and even in the substance of the brain, limits its growth and variously modifies the cranial form. Microcephali are throughout hydrocephali, at least the *liquor ventriculorum* was always found increased in quantity. As regards the inflammatory nature of the process, the *post mortem* examination of a new born microcephalus showed unmistakable

traces of meningitis. The exudative processes do not, however, constitute the sole causes of arrested cerebral development. They do not explain the absence of cerebral parts such as the *thalami optici*, the *corpora striata*, the *eminentia quadrigemina*, the posterior (very frequently, according to Lucae), and of the anterior convolutions; we must then confess that the laws for the defective development of these parts are as yet to be discovered.

Professor Lucae thinks that Cretinism should be distinguished from idiocy. He asserts that many skulls described and delineated by Virchow as Cretin-skulls do not belong to that category. In many cases, he thinks, it is very doubtful whether inflammation was the cause of premature synostosis. Neither can he in race skulls, however peculiar their form, assume synostosis as the cause of the shapes, as Virchow has done in his treatise on Cretinism. He (Lucae) considers a premature (*i. e.* before puberty) *synostosis suturæ sphenoccipitalis*, as the most frequent cause of short heads, and agrees so far with Virchow, who, in the above mentioned case of a new-born microcephalus, held the closure of the sphenoccipital suture as the cause of brachycephaly. Lucae thinks, also, that microcephali have a great resemblance to the Aztecs. The delineations upon American monuments are, perhaps, representing idiots, who were looked upon as sacred. Even now the ignorant population of the Alps has a similar superstition as regards their Cretins; hence they are called *béats*, or *innocents*.

Professor Schaaflhausen said that he also was of opinion that hydrocephaly and microcephaly proceeded from the same source. We may assume that the microcephalus was hydrocephalic during foetal life, and that in consequence of pressure several cerebral parts had wasted. The hydrocephalus bursts after a maximum of expansion. The cerebral water escapes and the previously expanded brain collapses. The discharge may take place through one of the fontanelles of the cranium. The so-called Aztecs, exhibited some years ago, were unquestionably of a pathological nature. Kilian said that he detected at a depression in the occipital bone the trace of the fissure through which the foetal cerebral water had escaped. They were after birth very weakly, with crooked limbs, and were only kept alive by the greatest attention of their relatives, whose object was to make money by their exhibition.

Professor Lucae called the attention of the members to the views of Carl Vogt, who formerly asserted the direct descent of man from the ape, but lately only called man the *cousin* of the ape, by assuming that microcephali were the parent stock both of the simian and human species. In direct contradiction to this theory stood the fact, that male microcephali possessed very scantily developed sexual organs.

Vogt, concluded Professor Lucae, might as well have derived man directly from the acephalus, since between the microcephalus to the anencephalus there exist all imaginable transitions.

Professor Schaaffhausen then made some remarks on dwarfs. In a dwarf aged 61 the brain presented a very considerable convoluted appearance, not as a mark of great intelligence, but as the result of a contracted cranium; not much exceeding the infantile form, and which limited the expansion of the cerebral surface, although the cranial sutures had remained open.

Dr. Schetelig doubted the influence of synostosis of the sutures on the shape of the skull; at all events the premature closure of the basal suture (*sutura spheno-occipitalis*) has not that importance ascribed to it, as he had seen extremely short heads without a synostosis of the basal suture. This brachycephaly was, however, a rare peculiarity, and not of a pathological origin.

After a discussion between Dr. Seidlitz and Professor Lucae, the latter again stated that Vogt looked upon *atavism* as the cause of microcephaly. He (Lucae) considered that there were *three* momenta which determine the cranial form: the sutures, the brain, and the muscles. Synostosis cannot be considered as the sole momentum.

Schaaffhausen then observed that the form of the closed sutures may indicate the time when the synostosis happened. In infancy the sutures are simple, with advancing age the teeth become longer and more pointed. As when the sutures have coalesced no further deposit takes place at the points, we might, by the smallness or absence of the teeth in the suture, recognise a premature coalescence.

At the last sitting, held September 24th, Dr. Schetelig read a paper on Northern Skulls of Jutland and Mœns of the stone period. These crania are distinguished by their round shape, a prominence of the superciliary region, perfectly straight jaws, flat worn-down teeth, and a projecting occiput. They vary much individually, even in those of the same grave and family. Some inferences may be drawn from these skulls, about fifty in number. The circumference was pretty large, amounting from 500 to 550 *millimètres*. The rotundity indicates a certain civilisation; the projection of the occipital squama is only found in peoples of the Indo-Germanic race, which seems to indicate that a strong growth of the posterior lobes of the hemispheres favours the greater development of the brain. The proportion of the base to the sum of the circumference, and the height of the cranium, is an important index as regards the civilisation scale of a race. He considered that the peoples of the stone period in Denmark were of the same stock as those of the British Islands, which are usually called Celts. At the conclusion of the sitting the president,

Professor Carus of Leipzig, proposed that for all the future meetings of German naturalists there should be established a permanent section for Anthropology and Ethnology, a proposition which was carried by acclamation.

INTERNATIONAL CONGRESS FOR ARCHÆOLOGY AND HISTORY.*

THE programme of the section for Primitive History contained the following questions for discussion :—

1. What do we know touching the beginning of human civilisation ; what was the quality of the first habitations and graves, of aliment and dress, of weapons and implements of man in the primitive period ?
2. What influence had the use of different materials, stone, bone, wood, gold, bronze, and iron upon the first works of art ?
3. Is the division of primitive history into a stone, bronze, and iron period for the old world generally applicable, or has not, in certain countries, the iron-period preceded the bronze-period ?
4. Are there any marks on the stone implements of the caves by which we may determine their relative age, and is the more or less marked so-called patina, and the thickness of the covering sinter, a sure index ; or are these latter dependent on accidental circumstances ?
5. Are there any starting points to determine the reindeer period in Central Europe ?
6. What reliance can be placed on the estimations hitherto made on the age of the pile buildings, and are the rude stone implements found in them contemporaneous with those in the caves ?

Sitting of September 15. Herr Geiger, of Frankfort-on-Maine, read a paper "On the Primitive History of Humanity viewed by the Light of Language, with Special Reference to Implements."

With reference to implements, the author remarked that we must distinguish between primary and secondary implements. The implement, considered in its development, resembles the natural organ ; like the latter, it has its transformation and differentiation. Man had at the beginning no other implements than he possessed in his organs, but with the improvement of his power of perception he improved his implements. Shall we ever, concludes the author, be able to clear up the night of the primitive period ? Shall we ever reach the goal of perfection we strive at ? We know not ; all that we know is that there is an inner voice which irresistibly calls upon us to go forward.

* Held at Bonn, September 14th to September 21st, 1868. (Abridged from the Report of Professor Schaafhausen, *Archiv für Anthropologie*, vol. iii, 1869.)

Herr Von Quast entirely dissented from the fundamental views of the preceding speaker, and contended that there exists no fact proving the original savage condition of mankind. Man has degenerated from a divine condition. He contended, also, that the oldest monuments of human culture show an excellence as yet unreachd.

Schaafhausen refuted this assertion by stating that the monuments of the primitive period, as well as the implements, were crude; and that, moreover, the human remains of the most remote period presented the character of a lower organisation.

Professor Zestermann, of Leipsig, drew attention to the remarks of classical authors on the early history of mankind in relation to aliment, dress, and habitation. The Arcadians lived on grass, leaves, acorns, and fruit; they lived on cereals only at a later period. There were anthropophagi in all countries. It is related that the Scythians drank blood; even in the "*Nibelungenlied*," the drinking of blood is mentioned.

Herr von Eichwald remarked that Herodotus speaks of anthropophagy in Russia among the most northern tribes of the Fins and Samoieds, which name signifies men who eat each other. Among the Ostiaks of the tribe of the Samoieds, children were eaten during a famine, which occurred about five years ago. Anthropophagy is, however, not a natural condition of man; the structure of the human teeth shows that he is not a carnivorous but rather a vegetable feeder.

Sitting of September 16. Herr von Eichwald read a paper on Tschudish antiquities of European and Asiatic Russia. There are numerous monuments of a very remote period in the Altai and Ural as well as in the plains, which are ascribed to an old people called in Siberia *Tschud*. In eastern Asia the word Tschud signifies *foreign*; in the west of European Russia, the Russians give even now the name Tschud to peoples belonging to the Finnish stock. In the Government Olonetz, there lived, not long since, a small people who called themselves Tschud, and who spoke Finnish. The Asiatic Fins, who knew the working of metals, were driven to the north by the Turco-Tatar peoples. At that time the great caravan trade with the Greek colonies on the northern shore of the Pontus was completely ruined. There are found in the Tschudish graves weapons and ornaments indicating a high civilisation. It seems that stone weapons were first manufactured by the Celts who, according to Plutarch, migrated from the south of the Ural westwards and northwards. They and the Gauls proceeded first, then the Cimbrians, then the Germans and Goths, and last came the Wends, to the west of Europe. The author presented for inspection Tschudish antiquities, consisting of a hammer

of sandstone, a celt and staff of bronze, a knife, a dagger, a needle of silver containing copper, a swallow and a bear of bronze with human faces, probably amulets, etc.

Professor Petersen, of Hamburg, then read an extract from his work *On the Bronze Age of Ancient Peoples*.

The author alluded to the different views entertained by archeologists. J. Grimm called the bronze-age an insoluble enigma. Others held that bronze-culture came from Asia ; others ascribed it alternately to the Celts, the Greeks, Etruscans and Romans ; Nilsson, with greater probability, to the Phœnicians. Waitz derived it from Africa, and Webel from England. According to Brugsch all the metals were known in Egypt nearly three thousand years B.C. At Homer's time, the finest bronze works came from Phœnicia ; even iron implements are mentioned. The bronze period lasted in Italy down to the expulsion of the kings. Everything speaks in favour of the origin of bronze-culture in Egypt or Western Asia and of its spread by the Phœnicians.

September 17. Count Przedziecki, of Posen, reported that in the Czeszewer lake near Golancz, Duchy of Posen, there were found traces of pile works, and in them vessels of a black not quite burnt clay ornamented with straight lines ; also, granite hatchets, bones, and horns. A portion of these objects is now in the Museum of the University of Krakau.

Professor Schaaffhausen then exhibited the well-known Neander-skull with some parts of the skeleton belonging to it, as the most remarkable relic of the primitive man, and which had given rise to so many erroneous views, by some of the greatest authorities. He still held the opinion that these bones were the oldest relics of the early inhabitants of Europe, and afforded the proofs of a low organisation, such as is, at the present time, not met with amongst the rudest nations. The abnormal cranial form is neither artificial by pressure, nor a morbid form ; nor owing to a premature closure of the sutures ; nor is it to be considered, as Vogt will have it, as the cranium of an idiot. Mayer at first called this ancient inhabitant of the Neander valley "Palæander," but further investigation induced him, on account of the crooked thigh bones, to express the comical opinion that the bones might have belonged to a Cossack who perished in these parts in 1814.

Professor Zestermann informed the meeting that he had received a letter from Professor Geinitz, stating that in the Tribotsch valley, near Miltz, in Saxony, there was found six feet under the uppermost Lehm-bed a portion of a human skeleton.

September 19. Professor Zestermann read a paper on the burial of

the dead in primitive times. The Baleares pounded their dead and placed the remains in earthen vessels for burial (*Diod. Sicul.* v. 18, 2, *coll.* v. 17, 1.) The Scythians buried their princes under a tent, which was supported by four perpendicular, and four horizontal lances, and thus had the form of the stone sepulchral chambers found in Germany.

Herr Otto Schmitz gave a sketch of the life of the wild Apaches, amongst whom he was during several months an involuntary resident. The region which they frequent is limited by the rivers Rio Grande del Norte and Rio Colorado, between 30° and 35° N.L. It forms a mostly stony plateau from two to seven thousand feet above the sea level. It is intersected by some few rain stream beds, which, in the course of time, excavate channels one thousand feet deep and from seven hundred to several thousand feet wide. The river bed is only filled during the short rainy period. Where the alluvium retains the moisture, the valley is extremely fertile. The sky is clear during ten months. The rain lasts a fortnight in April and about six weeks in October and November. Then stags, antelopes, mountain sheep, bears and hyenas leave their retreats in the valleys. The Apaches also now begin to prey on their fellow men. About seven hundred A.D., when the Tolteks of Central Mexico migrated to the north and built cities up to the Rio Grande and the northern Sonora, they found already the savages of the stony desert. Possibly the agricultural Pimas in the west, and the Moqui and Zuni-Indians are the descendants of the Tolteks. The Dominican and Franciscan monks tried in vain, under the protection of the Spanish military stations, to spread religion and culture among the Apaches. The tamed Indians, the Mexicans and Europeans, all look upon the Apaches as human beasts of prey, whose destruction is beset with difficulties. In the year 1860 the Spanish Government paid three hundred dollars for every Apache scalp; the price was lately reduced. Still the scalps came in sparingly. The Apache is very muscular, especially in the chest and the arms; the leg is not so well formed; the calf is thin; the foot not so flat as in the negro; yet in short distances the Apache is incredibly fleet. The hair has the same length in both sexes, it hangs down to the shoulder, and is of a dull black. The skull shows, compared with other Indians, by the oblique direction of the apertures of the eyes, that it approaches the Mongol type. The cheekbones are very prominent, the mouth is broad, the lips narrow. The eye is not dull and dark brown as that of the North-Indian, but has a glassy aspect. The average height is five feet and-a-half; the women are not much shorter. The resistance of the Apache to hunger, thirst, temperature and wounds is most remarkable. The Apaches have no other physi-

cian than nature ; nor did the author find any patients among them or any healing herbs. The skin is yellow or reddish brown as if sun-burnt, and, except on the head, shews no hair. The leathery thickness of the skin seems to serve them as a dress. When a coverlet or clothes are found amongst the booty they are worn simply as trophies. They walk about uncovered in the greatest heat of the sun ; still they prepare, like the Pimas, a cool head-cover of glutinous clay. During cold nights the Apache looks about for a depression in the soil, and constructs with stones, earth, and leaves, a burrow eighteen inches deep and three feet broad, into which he squeezes himself naked. Who possesses a skin or coverlet, uses it, but he does not require it. The Apaches shun everything that resembles a house, and they feel themselves uncomfortable if they cannot sleep in the open air. They repaint the face with red and blue lines ; but this is not a general custom as among the Comanches, who, as regards morals, stand far above the Apaches. The women wear as ornaments or dress sometimes skins ornamented with lines, but which have no significance. The aliment consists of acorns, nuts, gourds, beans of the Meskit bush, game, inclusive of rats, mice, snakes, and horses and asses ridden to death. The flesh is eaten partly raw, partly roasted on the spit. Cannibalism seems formerly to have obtained amongst them ; for on a question to that effect they replied that the Peintahs, a tribe living to the north of them, have a salty taste and are not good for eating. Their sole weapons are arrows and spears. The arrow-heads are of hard wood, obsidian, iron or copper which is found pure, rarely of a kind of bronze, which is equal in hardness and elasticity to steel, and is said to be produced by the melting of copper with green leaves. The Apaches either proceed singly or in small companies of ten without any chief. For great expeditions they unite under chiefs. During this period the chief has a temporary property. He has the right to claim a number of girls for his own use ; a piece of skin is plaited in their hair, then no one dare touch them. If the chief marries one a bundle of arrows is broken over her head. Apart from this privilege of the chief, there is no marriage amongst them. The children remain with the mother until they can gather fruit, catch rats or snakes, when they disperse among the horde. In most cases the mother suckles them to the third year. The women are not very prolific rarely producing oftener than in intervals of three years, and become sterile at an early period. It is difficult to determine their age, as they have scarcely a notion of years and never count them. Just as the sick recover without physic so do the women from their confinement. They usually deliver themselves, dividing the umbilical cord by crushing the same between two blunt stones, and instead of washing the

child, they powder it with dry sand. On approaching death the patient is laid aside. Lamentations are rarely heard. When a chief or one of his wives dies, the corpse is bound in skin strips, and placed on the slope of a hill on the sunny side, and covered with stones or earth. The notion of a future better life, or of a great spirit, as prevalent among many Indians, does not exist amongst them. The only festival they celebrate is that of the full moon. Fires are then kindled and an intoxicating liquor prepared from the cactus juice fermenting in the shell of gourds. They generally lie down, and when the moon rises they commence howling and imitating the cries of animals. They commence with a cry like that of whining children and swell it to the howling of the blood hound, then comes the hoarse cry of the hyena, then louder and louder until the echo resounds. Then follows a sudden silence, and instead of the voices of wild beasts there comes now the bleating of the ass. Then there is general laughter or rather a noisy grinning, and then the rhythm commences again, and lasts during the whole night until the moon sets. The Apaches keep no domestic animals; they steal and eat them during their flight. The animals are not slaughtered but torn asunder alive. Despite many powerful frames, there are also some stunted, who are left behind during an expedition, and either starve to death or are killed. The Apache has no courage; he only fights from an ambuscade. He speaks little and expresses his wants more by gestures than by sounds. He has no word for greeting or for leavetaking. The language is like most American languages, a speaking in sentences, rather than in words. The sounds are predominantly guttural, so that very loud speaking is almost impossible. There is a click in the language like that in the Upper Columbia. The auxiliary verb "to be" does not exist; they use instead the personal pronouns. Their numeral system is decimal and, perhaps, formed by the Spanish priests from Apache words. These hordes, which rove in a district as large as Germany, are computed to count five thousand fighting men. Half a century ago the Spaniards computed them at twenty thousand warriors.

At the conclusion of the sitting, Professor Jacobi, of Leipzig, delivered an address on the origin of the term *Teutons*. He believes that the name is derived from the winding coasts of Mecklenburg, Holstein, and Schleswig, and is, therefore, topographic: *Tut* and *deith*, means winding.

ON THE DEFORMITIES OF THE CRANIUM IN RELATION TO
INTELLECT AND BEAUTY.

By D. KING, M.D.

At the last meeting of the Ethnological Society for the Session 1869, Dr. King read his paper on "Deformities artificial and deformities natural." Of deformity artificial the Flat Heads of North America afford an example. Here is conformity of error, and the alteration that takes place is mere displacement of the cerebral mass, and of the cerebro-spinal fluid, which has, neither mentally nor physically, any deteriorating effect. The frontal sinuses are, however, almost entirely obliterated, but whether the sense of smell is affected is a problem yet to be solved.

The flat heads are peculiar to America, if we except the Avarians, a Turco-Ural race, inhabiting the countries between the Don and the Volga; and the flat heads are now restricted to certain tribes in the neighbourhood of the Columbia River, which flows into the Pacific Ocean. The same habit prevailed among the ancient Peruvians, and it only shows the infant state of the Anthropologist, when Tiedemann and Pentland maintained that these flattened skulls owed their singular configuration not to art, but to a natural peculiarity.

"I remember," writes Dr. King, "the first meeting of the Ethnological Society, when I had to give *vivâ voce* what Professor Cox had told me, on my journey to the Arctic Ocean in search of Sir John Ross, of the artificial means used to form the flat head. Professor Cox subsequently published his travels in two volumes, and he states the process in these words, which have been copied *verbatim* by Prichard and Retzius: 'Immediately after the birth the infant is placed in an oblong cradle, formed like a trough, with moss under it. One end, on which the head reposes, is more elevated than the rest. A padding is then placed on the forehead, with a piece of cedar-bark over it, and by means of cords passed through small holes on each side of the cradle the padding is pressed against the head. It is kept in this manner upwards of a year, and the process is not, I believe, attended with pain. The head never afterwards recovers its rotundity. They deem this an essential point of beauty, and the most devoted adherent of our first Charles never entertained a stronger aversion to a round-head than these people. They allege, as an excuse for this custom, that all their slaves have round heads, and accordingly every child of a bondsman, who is not adopted by the tribe, inherits not only his father's degradation, but his parental rotundity of cranium.'

Of deformity natural, Dr. King maintained that it was going on in civilised life to a considerable extent, in consequence of the mode of nursing. The mother is limited to one side, if there is but one breast to nurse upon, or in the case of twins, or in that of a wetnurse, having a child of her own, together with a foster-child, when each is almost invariably nursed on one side only, without changing them from side to side. Hence the head is constantly depending either always to the right or always to the left side. Now, Dr. King remarks, since the brain necessarily forms the skull-case, as the kernel forms the shell of the nut, the cerebral mass, weighing all on one side of the cranial bones, still in an incomplete state, the head of the child becomes larger on the depending side than on the opposite one, if not corrected before the several bones of the head are consolidated into one mass.

Thus the cranial vault is deformed, and in proportion as the cranial vault is deformed so is the face. The cranial vault of the European is well represented in the egg of the turkey. The forehead represents the apex of the egg, and the backhead, or occiput, the base of the egg. Reverse this, and the base of the egg will represent the forehead of the face, and the chin the apex of the face. Deformity of face is necessarily, therefore, the result of deformity of the cranial vault, and is further promoted by the habit infants have of sucking their thumb, with the index finger placed as a rest on the nasal bones, thus inclining the nose to one side.

Dr. King then described what he had seen among the Esquimaux, where the women carry the child on their back. By a shrug of the shoulder the child is brought under the right or left arm, as the mother desires, the consequence of which is that the head, inclining alternately to the one side or the other, becomes symmetrical, and the face also.

It is most important, therefore, to preserve the oval character of the cranial vault, in order to maintain that oval character of the face which was regarded as a type of beauty by the ancient sculptors of Jupiter, Apollo, Mercury, and Venus, but it cannot be preserved if the present mode of nursing is persistent.

THE IDEA OF LIFE, AS DEDUCED FROM CONTEMPORARY
PHYSIOLOGY. VIRCHOW—CLAUDE BERNARD.

Translated from *Le Correspondant* of Oct. 25, 1868, by E. S. DUNSTER, M.D.*

LOVERS of philosophical studies must of necessity submit to hearing something of physiology. The soul and life henceforward cannot be considered as absolutely distinct from each other. The doctrine of the unity of man, which was severely questioned by Descartes, has a tendency to again assert itself in science. The profound distinctions which were supposed to exist between the various faculties of the human being—between understanding, conscience, and liberty, on the one side, and instinctive affections, sensibility, and organic spontaneity, on the other, are by degrees becoming effaced; and, without denying that there are real and important distinctions, we can now, from our recent and more exact analogies, form a more accurate and positive opinion of the real state of the case. The being which thinks and the being which lives are one and the same, and, if thought is at times elevated and abstracted, it does not reach this point without involving in its train life and its peculiar manifestations, its instincts, and its harmonies—no less admirable for those who can comprehend them, than for those who can understand pure boldness of thought.

The science of man conceals in its depths a startling spectacle; that, namely, of the relations and modal conditions common to the soul and to life. By themselves, in every living being, the soul and life are characterised by an ineradicable spontaneity. Viewed in their highest aspect, they each conceive and create, and gradually unfold and come to perfect stature; they follow in their evolution primitive and ideal types; they are alike affected and susceptible to impressions; they yield to or resist evil; they stop in their course, or deviate from it, and are lost, or return to their original purpose. The emotions of the soul and the living body are intimately commingled. Intellectual vigour and moral perfection exist in accordance with physical vigour and organic perfection, and they are amenable to the same general laws. There is food for serious thought in the constant yet too little recognised blending of psychological with physiological and medical language—a fact which must not be regarded as a meaningless chance. It is a proof of the irresistible analogies, and the community of origin and nature, perceived by the instinct of the people, and by the genius which formed human languages.

* *Psychological Journal*, vol. iii, No. 3. New York.

The spiritualistic doctrines have nothing to fear from these intimate bands which unite the soul and life ; which make the soul nothing but life, considered in its highest power of thinking and willing ; which make life only the soul considered in its organic creations, in its living and perceptible realisation. The soul is the gainer in thus taking possession of the entire man ; it strengthens its position while thus extending its realm ; it plants itself on a solid and substantial foundation, which is lacking in the Cartesian philosophy—which, recognising in the mind nothing but pure thought, allows life to be merged into a most false as well as circumscribed mechanism. The teachings of Descartes, which are based upon an inexorable logic, have in philosophy swallowed up the individual being, and have carried the conceptions to that degree where the living being disappears in infinite thought and in finite expanse. In physiology these teachings have been no less baneful—they have inaugurated the reign of physiological materialism under the shadow of an impotent spiritualism. They are equivalent to saying, life is nothing but a result of matter and its properties ; and this expression of medical materialism has for a long time been associated with the most startling and unexpected declarations.

Some, with Stahl, conceding to the soul all the powers, would give it the ability to command and to move an organic machine—the body, which it did not create ; for the soul is not able to create a machine, nor indeed any thing apart from itself. The soul became the invisible motor of a mechanism with which it was temporarily associated, without disclosing, moreover, either from whence came the mechanism, or how this association was realised. Others, repudiating this conception of Stahl's, and the incessant intervention of mind in the organic functions, would declare in favour of accepting [the existence] of mind, but would leave the study of it to philosophy. But the science of life cannot thus be considered. Life and its functions relate exclusively to matter and its forces. The physiologists and the physician need only analyse these new combinations of force and of matter, to seek out the immediate principles of these complex organisations. In the physio-chemical reactions of these complex organisms, they would find both the cause and the reason of organic and vital acts.

In this arbitrary separation of the soul and life, how many scholars will find an expression of scientific reserve and prudence, and will boast of an example of a happy impartiality ! And this is not the first time that vain compromises have passed for wisdom, and been accepted for a time as a solution of most important problems. But such compromises do not last long. They quickly fall into contempt with logical, clear-headed thinkers. It is by logical induction that the truth is

separated from error in premises which contain both. If life is nothing more than matter, why should the soul be anything more than life, and therefore more than matter? why does it not express only a simple function of the entire organism? What! is life with its marvellous faculties, its sensibility, its evolution according to an ideal type, its functional harmonies, its apparent unity, its power of production and generation, is this, I say, only a result of the organisation of matter? Does this organisation itself acknowledge no other cause than a universal physio-chemical cause? and can we wish that the soul, breaking away from this chain of visible nature, should acknowledge an origin wholly mysterious and unapproachable by our senses, those trustworthy informers of every thing which is seen and tangible; in other words, of every thing that exists? Under what pretext shall we stop science in her career, her prolonged successful efforts to sweep away these final metaphysical entities? From understanding and reason, the supposed attributes of the soul to sensibility, and the instinctive affections, the acknowledged attributes of life, is there not an unbroken gradation, which shows well how both partake of the same activity and proceed from a common source—matter in a state of organisation? Sensibility and contractility are the properties of muscular and nervous substance—why should not thought and will be analogous properties of brain substance? The brain produces thought just as the muscles produce contractions—just as the liver produces sugar, or as oxygen and sulphur produce sulphuric acid. All these varied phenomena are nothing but molecular changes of matter. The organism, then, which was believed to have the power of evolving life out of matter, while excepting the soul from this category, and protesting against every extension of a purely physiological doctrine—the organism, I say, would inevitably drift into absolute materialism, and, still further, it would furnish proof that this inconsistency is not an easy foundation on which human spirit and science may rest content.

Physiological materialism necessarily passes beyond the mere living entity, to reach to and compass the soul itself, and every causality, except that which originates matter. It follows, therefore, that the philosophy of our day must have an interest in physiology—that it cannot disdainfully pass it by without testing the value of its teachings. The soul of man has a visible realisation and function in life; if science affirms that life, as a cause proper, is a negation, then the soul is swept away by a single stroke. Social and human order, the ideas of duty and liberty, the whole moral aspect of things, are, as a consequence, unsettled and broken up. Physiological materialism, should it happen to gain the ascendancy, would effect the final revo-

lution and definitive fall of a world which may offer nothing more for our consideration than a never-ending interchange of matter.

These considerations will serve as an apology for the remainder of this paper, and for the surprising astonishment which, perhaps, may be in store for its readers. I am about to speak of physiology, and to treat of the general problem of life. I would deal intelligently with these obscure and entirely novel questions, for they are but seldom brought before those whom the learned by profession call the vulgar—the vulgar from whom they are themselves occasionally compelled to take lessons in reason and common sense. These questions, moreover, have assumed a new and large place in the public preoccupation; and these preoccupations, in thus directing themselves, yield to those profound presentiments which show the increasing importance of certain problems hitherto regarded as of secondary import, and limited to facts of a wholly special order.

In the order of physiological knowledge there is a double movement at work—one destructive and erroneous, and which seems to have no other purpose in view than to upset all the great traditional truths of the science of man; the other, constructive and regenerative, which comes back by a long detour, and, perchance, unsuspectingly, to those obscure and abandoned truths, and throws unexpected light upon them. If this last movement should prevail, if it should hold its own, and shake off the fetters which still impede its progress, it will give a new phase to the study of physiology. Borne up on the current of truth, the scholar will no longer be timid in the face of life; he will lay hold of its peculiar activity, and will know how to distinguish it from everything which surrounds it and infringes upon it, and he will separate forever the living causality from that external causality which it takes possession and makes use of. The domain of life will then be fixed within its proper limits and relations. The science of man will then acquire proportions and an assurance hitherto unknown. This is the movement that I desire to study and to urge. I would show what it has already produced under our own observation, and what it may yet produce; the obstacles to be avoided, and the passions and prejudices of the day which oppose it.

Two eminent physiologists are the prime movers in this renewal of the science of life—Virchow in Prussia, and Claude Bernard in France. By the importance of their works and discoveries, by the direction which they have given to biological research, by their power of generalisation of the methods of study which they have caused to prevail, by introducing into pathology the physiological theories which they have conceived, these illustrious scholars have, each, raised themselves to the dignity of chiefs of a school, and these schools have re-

ceived the name of the two great nations to which they belong. Virchow is the acknowledged head of the German school. Claude Bernard is the glory of the French school. The work of these two innovators, considered as a whole and in its general bearing, is both similar and dissimilar; each work reflects the peculiar genius of its nationality. The one is systematic, profound, unintelligible to all those who are content with merely taking a survey of the external envelope; bold in truth as well as in error; disclosing life and its laws concealed in regions where the human eye has never yet penetrated; and, on the other hand, misrepresenting it in the fundamental characteristics which are attested by universal observation; a work, however, that is both vast and able, where clear affirmations will soon sweep away timid and baleful negations.

The work of the French school, at first sight, presents nothing of these general and systematic aims—none of these obscurities which fatigue one in their investigation, and deceive those who love easy paths. For a long time it has devoted itself to the following out of a particular purpose—the discovery and demonstration of a new fact. It has revealed to the astonished learned world organic functions which are necessary to the maintenance of life, and which hitherto had not even been suspected. These flashes of truth, thrown upon one point of the living organism and its functional mechanism, were not confined exclusively to clearing up this point alone, but, by being reflected, as it were, from one function to another, they quickly embraced the entire organism, where all the functions are combined. All are both acting and acted upon, where each individual function impinges upon all the other functions, and is in its turn impinged upon. Meanwhile, whatever brilliant harvest Bernard may have reaped in the field of experimental research, he could not for ever confine himself to so narrow and limited a line of study. Brought incessantly face to face with life, he was unable to interrogate it in its entirety, and in its harmonies, in its cause and its end, in its full and substantial reality. Although these last and important characteristics of life may escape the test of experiment, and may not be realised in any fixed order, M. Claude Bernard is not thereby absolved from the duty of contemplating them, or, if needs be, of meditating upon them—for he is something more than a mere experimenter—he is a physiologist and a scholar; he is, in other words, a man who knows that the experimental conditions of phenomena would never of themselves elicit the true knowledge, and that, in order to arrive at this, he must go back to the cause which governs and controls those determinate phenomena. I do not say that Claude Bernard has always shown himself implicitly faithful to these great truths; he has arrived at them

only through great hesitations, and these hesitations are not entirely effaced from his mind. The trace of conquered prejudices still remains and crops out, and it is a spectacle as well worthy our attention as that of the conflicting teachings which are found in the later works of this eminent physiologist.

The influence exercised by MM. Virchow and Claude Bernard is destined to endure and to increase with time. In their hands the idea of life will not remain fixed and fruitless. They have comprehended its import, and have seen that just there was the basis of their labours. They have wrought more patiently, more zealously, than any of their predecessors, or even their contemporaries. Life is the foundation on which all physiology rests and is developed; they desire to define it—to determine its peculiar and essential characteristics, and from them to deduce and lay down equally essential characteristics for the science of biology. What are these characteristics? Are these two chiefs of schools, inspired as they are by an ardent love of research and of progress, compelled on this account to reject and to oppose the teachings of tradition? Are their conceptions and the fruits of their eminent labours opposed to the grand spiritualistic doctrines on which hitherto have been based the ideas of life, and that science of which it is the long and wonderful development? To reply to these all-important questions is equivalent to showing the progress and tendency of the physiology of the day.

Every living being originates from a germ—or, as Harvey puts it, *omne vivum ex ovo*. Such is the essential character of life, that which sums up all the rest, and without which we could form no conception of it. The doctrine of spontaneous generation has essayed to weaken the range of this truth by pretending to prove that certain infusoria, and therefore life, at least in its rudimentary forms, may be spontaneously produced in organic liquids. But these assertions, which have been examined into and contradicted by the most advanced and positive science, have only served the purpose of lending new strength to the contested truth, and place in a more conspicuous light this crowning mark of every living being of every life.

This character pertains to the being considered in its unity—its whole organism, its regular evolution—in a word, it pertains to the individual. This being itself is composed of constituent parts, of organs, apparatus, tissues, and various elements. The discovery by Bichat of the elementary tissues of which the organism is composed, was one of the great strides in the progress of general anatomy. Armed with the microscope, our analysis has penetrated more deeply into the organic structure, and has reached even to the elementary particles which compose, or from which originate these tissues. These

particles are the true elements whose aggregation makes up the living being. These are the anatomical elements or primitive organisms—the *organites*, as Milne-Edwards calls them. These elements have all been resolved into one type, that of the cell—a type, however, which must not be represented under the simple and only form of a closed vesicle, containing a central nucleus, but under the most varied forms, and even apart from any precise form, in the condition of a nucleus surrounded with protoplasm, *i. e.*, organic matter which has not yet taken on any fixed form.

The living body is therefore an aggregation of a prodigious number of these cells, or *organites*. Associated together for a common object, and united in functional harmony—all the more admirable, as the parts concerned are infinite in number and infinitely small—these cells, although they are but an expression of the general life of the being, and derive from this life their own proper existence, have nevertheless a special, and, up to a certain point, a distinct life of their own. Each feels, reacts, suffers individually, and communicates its impressions in a more or less extended circle around itself. The cell has, therefore, a sort of an individuality ; it is a species of inferior and subject being, which possesses and imparts life only in the condition where everything around and beneath it is in a state of life, only as the superior life of the individual sustains it and constantly permeates it.

I trust I may be excused for this brief recital ; it was necessary that I should make it in order to introduce to the reader a new physiology and pathology—the creation of the German school and its illustrious chief, M. Virchow, and which has received from him the characteristic names of cellular physiology and pathology.

This new physiology soon gave rise to problems previously unknown. How is the cell—the primitive organism of the living being—born—how is it multiplied—whence comes it ? Here, in a new phase, were reappearing those exciting questions of spontaneous generation, and generation by descent from ancestors, which, as we have already seen, were put in the case of the life of the whole or the individual being. Does the cell originate spontaneously in the midst of the organism, in the fluids with which the organism is bathed ? or is it always engendered from another cell, which will multiply itself by a never-ending process of division known under the name of cell-proliferation ? These two theories—we may, indeed, say doctrines—have each their advocates in the scientific world. In Paris Professor Robin sustains the view of a spontaneous generation in the midst of the albuminous or formative fluids which are furnished by the living organism. This is the materialistic argument for the spontaneous generation of a being no longer limited to the inferior orders ; but carried up and into the

higher orders, to those very beings who are born from parents. These beings as soon as they were engendered and born, would develop themselves by the spontaneous formation of their elements in the midst of the fluids, which, introduced from without, undergo in the economy a special physico-chemical elaboration.* Life so far as concerns its peculiar cause and force, is as much as possible kept out of view in this mode of development of the being. Generation from a parent stock, the crowning work and testimony of life, which itself carries us into a new order of things of which neither physics nor chemistry can give us any idea—this generation, then, would only involve one mysterious point, that, namely, of the birth of the being. Here there would be but a single instance in which science has been unable to solve the secret; but, when that instance is past, the whole mystery is swept away; matter and its forces would then reassume their absolute rights; and, if these do not explain the origin of the being, they at least will account for its further development.

The German school most strenuously rejects this spontaneous generation of the cell. With M. Virchow, it asserts that, whatever may be the place where the being originates, and whatever we may admit as the reason of its development, the whole doctrine of spontaneous generation is a myth. It has supplemented the older aphorism *omne vivum ex ovo* by another and no less significant one, *omnis cellula e cellula*, every cell originates from a cell. The living being, a cell scarcely visible at its first appearance, but still endowed fully with a latent force and unity, maintains and develops itself only by an evolution which proceeds from cell to cell, by the creative energy of every created cell. Through the whole course of life, everyone creates and fashions itself, perceives and reacts by its own cellular activity; it is the unity of organic formation and creation—a simple, and yet a grand truth, which interprets for us one of the fundamental laws of life, without unsettling that which the traditions of science have already taught us; on the contrary, it gives to this tradition a new confirmation, for it extends its teachings from the primitive cell of the germ, where they were arrested, to the infinite mass of animated cells which make up a being.

* Strenuous efforts by experimentation have been made, and that, too, very recently, to prove the spontaneous generation of cells in fluids taken from the living organism. These efforts have been of no avail. Not a single experiment has withstood the scrutiny of a close observation; for it has always been easy to show that the cells of pretended spontaneous origin came from the organism itself, and from the cells which compose it.—[On this point consult the discussions which were raised in the Biological Society of Paris, by the experiments of Monimus.]

Already, how beautiful a sight, and how glorious an achievement, is this conception of the mind, which traces life into its profoundest depths, and discloses there the mystery of innumerable generations in an organism which seems to have been engendered at one birth! And, in the law of the original generation becoming the law of the constant evolution of the whole living thing, what a view do we have of the nature of life itself! how are the old mechanical theories upset! what a new interpretation of the facts already known, or rather that we thought we knew! Let us take, for example, *intussusception*,* the mode of growth which, with good reason, we consider one of the characteristics of organic bodies, a characteristic opposed to accretion, the mode of growth of inorganic bodies. Now many physiologists, when compelled to account for this process of *intussusception*, see nothing more than the introduction of the nutrient juices, and their elaboration by the successive acts of digestion and absorption, the introduction taking place through the animal membranes by a sort of endosmosis, and thus allowing of the temporary assimilation of the introduced materials. Is *intussusception*, when thus understood, truly a living act, and does it differ essentially from growth by accretion? If assimilation of the elaborated materials is brought about only according to a fixed plan, and if it has no reference whatever to the general tendencies and needs of the being—if we judge of it only by the local phenomena seen in it, it does not differ materially from a mode of internal accretion, following a purely physical endosmosis, co-related to disintegration. The nutrition of the being would thus resolve itself into a continuous double movement, in which there is no essentially living process. The true idea of cell life gives to nutrition an entirely different aspect. *Intussusception* becomes a living property of the cell, for the cell directly controls it by means of its own life. It is no longer a simple endosmosis followed by exosmosis, through an organic membrane of extreme tenuity. No, the enveloping membrane is not an essential part of the cell, and it controls neither the acts of the cell, nor its growth. It is the nucleus of the cell which governs all cell life, which presides over the nutrition of the

* The reader must not attach to this term its usual signification of *invagination*. It includes the processes which are essential to the growth of living or organised bodies; viz., introduction of materials, digestion, absorption, and assimilation. There is no single word in the English language which covers it; and it is unfortunate that the term *intussusception* has not been accepted, by common consent, to stand for this process, *invagination* being reserved for the infolding of the intestines, etc. I say, by common consent, for it has occasionally been used in this signification, though, as a rule, at the present time, it would in this sense only mislead the reader.—E. S. D.

organites, which incites and accomplishes intussusception, growth, and cell proliferation. Intussusception, thus made subject to this central and yet diverging activity of the cell, is directly controlled by life; it is, as it were, a triumph of life over inanimate matter, and if in its instrumental conditions, it continues on as an endosmotic and physical process, in its determining cause it is a specific and a vital act. Thus it is that the knowledge of all cell life changes our whole notions of the vital processes, by investing them with a more profound and intimate life.

The cellular doctrine, inaugurated by the German school, was repeated at length in pathology—a proof of its truth in physiology. Pathology, in fact, is nothing but a development—a new aspect of physiology. The truths that are taught on one side must hold good on the other. We are about to attempt to give some idea of the impetus which was laid upon the study of pathology by this intrepid innovator of Berlin. It is the only means of enabling us to comprehend the whole bearing of cellular physiology.

At the very origin of the being, there was nothing but a cell, the ovule, and consequently only a single species of cell. This cell, while interminably dividing and multiplying itself, does not lose its peculiar characters; it retains its primitive type, and this type becomes that of the cell element, of the most extensive tissue of the economy, the tissue which we find in the structure of all the organs, and which is known as the conjunctive or connective tissue. The formative cell is the element of this tissue; indeed we might with greater truth call it the common generative cell. The cell of this primitive type has, in fact, an original and persistent generative power. This it is which, according to conditions of time and place, determined by the specific type of being, will generate cells of special forms and functions—cells derived from the primitive and common cell, and yet entirely distinct from it. They are the cells of the nervous muscular and epithelial systems. Thus, then, we have, on the one hand, the primitive cell, multiplying itself while preserving its original and proper characters; and, on the other, multiplying itself under secondary forms, adapted for special functions transformed, but always subject to the specific type of the being, the first cell of the being containing potentially even, if not made visibly manifest, all the cellular forms which are to be evolved and to constitute the complete being. Such is the general law of cell development. Well, then, this physiological and normal process, which we have just sketched, becomes the prolific type of every pathological process; the law of physiological genesis becomes the law of pathological genesis. In disease, cell-birth does not take place by any different plan, nor are the cells of a different type from those engendered in the healthy state.

On this capital idea, M. Virchow has entirely remodelled pathological anatomy, and the process of development of tumors—that is to say—the products of abnormal and pathological formation.

“The type which, as a rule,” says M. Virchow, “governs the development and formation of the organism, governs in a like degree the development and formation of tumours.” He says also the following, which is no less true, and which should never be forgotten in comparative medicine: “It must be laid down in advance, as a fundamental principle, that whatever man produces will be something human, and whatever an animal produces will be something animal.”* Virchow, in order to lay stress upon this precept, by an example which may be clearly comprehended, shows readily that, in the tumours which are observed in geese, we shall never find hairs like those of man; the tumors found upon man will never contain the feathers of the goose. This view, which is so simple, is sufficient in itself to upset all the fallacious theories which the early microscopical study of tumours gave rise to. We believed, in fact, that each specific tumour was characterised by a special cellular element, without analogue in the economy, and consequently entirely new, and which thus seemed to constitute a kind of being, or parasite, wholly distinct from the living stock on which it was developed. In this way, we admitted the existence of a specific cell for cancer and for tubercle. We thought, by that, we had discovered the true nature and the essential character of cancerous tumours and tubercular products. We accepted these ideas with enthusiasm, and defended them with obstinacy. We stigmatised, as enemies of progress, all those who rejected these ideas, and who pretended to find elsewhere the essential character of the cancer and the tubercle, and referred it to the causative disease, and to the abnormal evolution of the tumour, and not to the cell whose real specificity was not demonstrated. The question was in just this state, and seemed to be given over for a long time to the most contradictory explanation, when the cellular physiology came to the solution by the aid of the generative principles recognised by that physiology, as well as by the aid of a careful observation of facts. It is not necessary for us to have specific elements that have no analogues in the other elements of the organism; the cell, and the being which is a development from it, cannot produce anything essentially different from themselves; and they can no more do this in a state of disease than in a state of health. All the cellular types of morbid products must be found in the healthy organism which gives rise to these products. The progeny are always, by nature, directly related to the ancestry that gave them birth. Thus, observation in its turn came to furnish reason to general

* *Pathologie des Tumeurs*, 1re leçon.

physiology, by showing that all the so-called new and specific elements of tumours had their similars in the organism, and that therefore they were neither new nor specific.

Nevertheless, tumours often present cell elements quite different from those found in the regions where they are developed, or in the tissues which nourish them. This was also the cause of the mistake which was made regarding the anatomical specificity of the elements which go to make up these tumours. The law of development of the different cellular elements furnishes a physiological reason for these anomalies. The formative cells of the connective tissue, which we propose to call the common generative cells, give birth, according to determined laws, to cells of various forms and functions, as observed in the organism. Now, the cells of the connective tissue preserve this power of various generation, in disease as well as in health; they may give birth to cells unlike themselves, but always analogous to those which they originate at some point or other in the economy, at some one time or other in the process of the evolution of the being. So the connective tissue is alone fitted to give rise to these pathological formations. All the tumours which come from proliferation of the various cell elements, different from the original or producing element, all these, I say, spring from the connective tissue—the common generator. It has, as it were, the monopoly of these abnormal births, an actual reversing of the physiological mode of growth. In the case of disease, there is then only a change, so far as concerns the histological growths in the conditions of place and time. Some special cell elements show themselves where they ought not to appear, but we may find these same elements normally elsewhere. The specific type of the living being always governs these irregular or degenerate productions. A man that is become the subject of disease produces only the cells which he is able to produce originally. He does not acquire any creative faculty of organs or of new elements.

At other times, the new cells which spring from the formative tissue are not distinguished by such differences of form as to resemble the other cell elements of the organism. No, they preserve the type of the connective cell element, but they remain sickly and miserable, they do not reach full development, they soon die in the midst of the tissue, and undergo that form of degeneration known as gray granulation, which is a sort of a living death, and causes the loss of all organic sensibility and vitality. Tubercle is of this sort. Here again there is nothing specific, but there is a cell alteration by arrest of development and loss of vital resistance.

It is proper to speak of the fundamental character which pathological anatomy takes under the cell doctrine. It rests wholly upon

the mode of generation of the lesion ; the lesion is nothing by itself, but only by its processes. There is some error, either of time, place, or development ; it is a disturbance in the evolution which gives the real character of the lesion. Thus pathological anatomy is no more a fixed and dead science, a method of registration of material alterations ; it becomes a living science, rising wholly from the science of life, and finding its reason for existence in the general laws of vital evolution ; it is this irregular evolution, and not a physical alteration of our tissues, commencing we know not where, and accomplishing itself we know not how.

We shall find these explanations too long, and this *exposé* of the cellular physiology will appear too technical, better fitted for presentation in our medical schools, than to be written out for those who may wish to read it here. At the outset I protected myself against these impressions, and I again ask the reader to resist them to the end. We shall see that I cannot give an idea of the actual status of physiology, of that which has a real bearing, and a certain duration, without using, in some of these details, that harsh and unfamiliar language which science makes use of.

I stop here, however, and will pursue this subject no further, however interesting I may have found it. Thus I shall not show how this cellular physiology changes our old ideas of inflammation, and takes away from it its superficial character of a special congestion of the capillaries, with swelling, redness, heat, and pain, and gives it a more profound connection with life, and with the cell element which represents life. Virchow has placed all the phenomena of inflammation in dependence upon cell life ; this life arouses, controls, and directs these phenomena ; it is the secret spirit and substantial reason of them ; and they become a consequence, an expression of original organic difficulties, all of which pertain to the living cell.

I will say nothing further of the cellular fecundation which M. Virchow has called into play to explain the abnormal proliferations of the formative cells. This generation, if of the common universal cell life, is accomplished by a special excitation, which Virchow has wrongly called by the generic name of *irritation*—a word which, since the time of Broussais, has been used to designate the first degree of inflammation, and partakes of the special nature of this last-mentioned pathological act. This excitation, or, better still, to use the words of Brown, this generative *incitation*, is a sort of rudimentary fecundation, an infection from cell to cell, which transmits to the healthy cell the mode of the abnormal and irregular cell, or to the fecundated cell, a type entirely different, namely, that of the fecundating cell.

All this pathological physiology is imbued with a higher estimate of

general life than any scholar hitherto had attained to. This estimate is even in advance of the ideas and science of our time. Few physicians understand it; the majority, at least in France, only sneer at the cellular physiology and pathology. Even those who in our midst accept and maintain the teachings of the German school, do not comprehend clearly the thought which rules those teachings; they merely see and study the particular facts in anatomy and physiology which are sent to us by the physicians from beyond the Rhine; these facts are often questionable and erroneous; but the change in physiological study which is taking place in the dark, by the aid of microscopical analysis, and the observation of vital processes, they misunderstand, or call it a theory, and condemn it as such. Those men want visible or tangible facts, and nothing more. But M. Virchow has dared often to go beyond these facts, and he has reared up an entire living physiology, in which the mode of evolution, and the idea which directs it, receive more consideration than the immediate perceptions of the senses.

If the vitalistic doctrines, and the fundamental notions of vital anatomy were excluded from science, they would be restored to it by M. Virchow. The cellular physiology is imbued with them, and no conception of life is less dependent than this on physico-chemical causes. What, indeed, is the symbol of this profound physiology? It is the fecundated ovule, an animated cell, the entire being of which is about to spring forth by an indescribable spontaneity. The whole of life is nothing but a continuous fecundation and generation. The innumerable mass of cells which constitute an organism have, so to speak, no other functions to feel and to react, to fecundate and multiply, to impress one another, and thus extend this impression to the entire being, through the subservient and intermediary action of apparatuses for transmission of the impressions felt in one point. The whole of cell life is summed up in these facts, or, better, in these acts; and what can be more absolutely free from mechanical or chemical action than this? Sentiment and generation, where do we find these? in the manifestations of pure matter? Living beings alone manifest this unknown power, and this power is so necessary to life that it cannot be conceived of without it. The living being is born, develops and reproduces itself by generation. In the face of this spectacle, we can truly say that a new order of things is rising, *novus rerum nascitur ordo*. The properties of matter, whatever part they may be destined to play in this new order, contain in their origin none of these vital activities. They cannot account for the real cause; we must pass to a causality as new as the facts which this causality governs.

But the mind of man is an abyss of contradictions, and often the

most cultivated minds exhibit, in this way, the deepest of abysses. M. Virchow, animated by philosophical prejudices, which the close study of living nature ought to have overcome, and starting *à priori* with the vulgar precept that nothing is true but what is proven by experiment, would willingly, at times, efface this exciting picture of cellular life, and make a cell nothing but a bare product of inorganic matter, and such a product would depend, for its properties, on the particular and complex arrangement of matter, and the chemical reactions resulting therefrom. I should not like to say by what and how many astonishing contradictions M. Virchow arrives at such teachings. I prefer to quote his own words, that they may be judged directly : "Life," says M. Virchow, "is the activity of the cell ; its characteristics are those of the cell. A cell is a real body, composed of determined chemical substances, and constructed according to determined laws. Its activity varies with the substance which forms it and which it contains ; its function varies, increases and diminishes, appears and disappears, with the change, the growth, and the diminution of this substance. But this matter does not differ in its elements from the inanimate matter of the inorganic kingdom, which, on the contrary, it constantly employs to perfect itself, and to which it returns after having accomplished its special duty. That which is really its own is the manner in which the matter is disposed of, the peculiar grouping of the minutest particles of matter, and yet this grouping is not so peculiar as to be in opposition to the dispositions and groupings which chemistry detects in inorganic bodies. That which seems to us peculiar is the kind of activity, the special functions of organic substance, and yet this activity and these functions do not differ from those which natural philosophy studies in the inorganic world. All the peculiarity is confined to this, namely, that in the smallest space are condensed the most varied combinations of substance, that each cell is the focus of the most intimate actions of the most varied combinations, and that it thus produces effects which are met with nowhere else in nature, because nowhere else can we find a similar intimacy of action."*

Can we conceive of a confusion of doctrine more painful than that which these lines betray ? Truth ordinarily speaks outright a clearer and more honest language. After having made the cell a simple chemical compound, after having fastened its activity to the substance which forms it, M. Virchow, wishing to define what the living cell possesses peculiar to itself, finds this in the peculiar grouping of the smallest particles of matter, and yet, he adds, this grouping is not in opposition to the grouping effected by chemistry alone. Thenceforth what becomes of this peculiar grouping, and that which belongs

* *Révue des Cours Scientifiques*, April 7, 1866.

only to the living cell? How does it differ from what is observed in inorganic nature? M. Virchow reaffirms, in order that he may be better understood, and for the purpose of giving a more real distinction, viz.: "What appears to us to be peculiar, is the kind of activity and the special functions of organic substance; and yet this activity and these functions do not differ from those which natural philosophy investigates in the inorganic nature." Is this said in earnest? Do not all these "*and yet*" recall the buffoon character of a contemporary play, who never commenced a eulogium but to end it with "*and yet*," which was sure to provoke bitter criticism. The cell, the organic substance, has special functions, and yet its functions do not differ from those which natural philosophy investigates in the inorganic nature! Natural philosophy, then, investigates, in the inorganic nature, the organic sensibility and spontaneity, the fecundation and generation, the unity and individuality of the being. What is this natural philosophy, and what is this inorganic nature, that undertakes or that offers such prodigious results by study? Such is the conclusion arrived at when people refuse to openly acknowledge in life an innate causality, creative of a new world.

M. Virchow affects to separate himself violently from all physiological spiritualism, in order not to attribute to life a principle chimerically distinct and isolated from the organism. There is no community between the spiritualistic doctrines and the latter error. The living cause, although real, is not distinct from the living organism; this last is only the visible translation of the first. The effect realised in this world—the effect thus conceived—cannot be separated from the cause any more than the cause from the effect. For the physician and the man of science, the dead organism—the cadaver—is an organism only in so far as the living being exists within the body which it creates and animates. This is the spiritualistic and physiological teaching. It is much clearer and scientific than those distorted opinions—those affirmations immediately followed by negatives, which it is proposed to avoid at any price by the use of that frightful word, vital causality, which gives to the living being an existence absolutely distinct from the inorganic world.

But essential truths have always their day and their hour. The spirit of theory that disputes them is silent at times, and the same voice affirms, at some time, what it believed it had denied for ever. After having delivered, at the "Congrès des Naturalistes Allemands," this discourse on "*The Mechanical Conception of Life*," the title of which is alone an indication of the nature of the discourse—after having said, as we have seen, that the activity of the cell, which is life itself, does not differ from the physico-chemical activities, M. Vir-

chow, a few months later, in a public lecture at Berlin, called "*Atom and Individual*," expressed himself thus: "There is nothing similar to life but life itself. . . . Nature is double. The organic nature is something quite peculiar—something quite different from inorganic nature. Although formed out of the same substance, with atoms of the same nature, organic matter exhibits a continuous series of phenomena, differing in their very nature from the inorganic world; it is not that the latter represents nature *dead*, for nothing is dead but what has lived; inorganic nature possesses also its activity, its eternally active working; but this activity is not life, although it may be a figure of life."

How can we believe that the same man and the same scholar wrote these lines, and those that we have quoted above? Where can we find more striking contradictions of the first assertion than the second? Whatever may be the explanation—shall I confess it?—this matter of contradiction, in varying degrees, is almost a constant fact in medicine. I know of no science in which contradiction rules so absolutely; yet, be it well understood, it is not the science that should be blamed, but those who cultivate it, their prejudices, and the doubts which those prejudices beget.

Do we desire a new proof of these contradictions and prejudices, M. Virchow will again furnish it. We shall see this great mind throwing doubt upon fundamental truths, which, more than any others, he ought to have defended; for, by applying these truths to the whole of a new order of facts, he made them peculiarly his own. In denying them, he was denying one of the best portions of his fame, and, nevertheless, he makes this sacrifice in favour of popular errors which he dares not oppose.

It concerns the invariability of the species among living beings, invariability which is betrayed even in the cell, and which disease itself does not disturb. "A given species of plants," says M. Virchow, "produces only plants of the same species, and never of a different species; an animal propagates itself only within the limits of its species. If the species dies, it is extinguished for ever. More than this: morbid development is confined to the established limit of the species; even in the most different pathological conditions, the human body, as I have endeavoured to prove, never gave birth to any organic form, any cellular element, which has not its counterpart in the state of health. Every physiological and pathological formation is but the repetition, the reproduction, at one time more simple, at another more complex, of types once classified. The plan of organisation is invariable within the limits of the species: the species is always the species, and nothing else."*

* Virchow's Discourse, "*Atom and Individual*."

Such is the affirmation ; it is absolute, and furnishes the essential basis upon which is raised the physiological doctrine of cellular life. A few lines further on we have the negation ; here the invariability of the species is denied in the name of mechanics, which the author would make the creative power of the world and life. " If life had a beginning, science ought to be able to determine scientifically the conditions of this beginning. Thus far the problem remains unsolved. There is something more : our observations do not warrant us in regarding any longer the invariability of species, which seems so well established in our days, as a law which always existed : for geology teaches a sort of gradation, according to which species have succeeded to one another, the superior species originating from the inferior ; and, although present observations militate against this hypothesis, I must confess that I regard it a scientific necessity to return again to the possibility of the transformation of one species into another."

Then only does the mechanical theory of life acquire a veritable certainty in that direction. In looking at the pretended scientific difficulty here raised by M. Virchow, and which forces him to conclude against " present observations," we can judge of the tyranny which fixed prejudices exert, and the obscurity which they cast over the intellects that entertain them. But a moment since, and the author proclaimed the necessary invariability of the plan of organisation within the limits of the species ; now he teaches the possibility of the transformation of a species into another ; and that without proof (for the geological succession of species does not demonstrate their transformation), or rather against all proofs, against the concurrence of physiological doctrines, so admirably upheld and advanced by himself. What a fall is here—and how great a defection in science. Let us overlook these weaknesses. In reality, they have not the importance which might be attributed to them. They delay, I grant, intelligence, and the popularisation of truths described by the new physiology ; but this delay cannot obliterate these truths, nor cause their irremediable rejection. In spite of himself, M. Virchow has contributed to science ideas fruitful of good, and which will assuredly survive the errors under which he attempts to stifle them. Contradiction is fatal to error, never to truth ; the latter prevails in itself. Cellular physiology has for ever given to the idea of life an extension and strength which will separate it more and more from the inorganic world. Cell life is more closed to the intrusions of mechanics than is life considered in a fully-developed being.

The cell, in effect, reduced to the almost organic simplicity absolute, and to the simplest vital function, to generation only, could not, in any degree, be considered as a machine, or an assemblage of springs,

the play of which is communicated from one part to the other. The complete being alone exhibits the external image of a machine. The cell which feels and generates, and cannot be conceived of under any other system of functions, has nothing in itself which reminds us of the agency, and the various and adapted pieces of an organic mechanism. It is the most perfect type of a realised innate activity—a spontaneity incessantly creative, an evolutive and final harmony, which are the negative itself of a communicated and transmitted movement.

The isolated study of the living cell was not, however, without its danger; it might, by exaggeration, and by becoming exclusive and systematic, destroy the idea of the unity of the being, lose the fundamental idea of individuality, and annihilate the life of the whole in the immensity of cellular lives. The cell, substituting itself for the organism, was absorbing in itself the unity, and was becoming the true individual; a serious sophism which they cannot avoid, who, having laid aside all their metaphysical ideas, or having voluntarily denied them, cannot rise to reality, which is one above the visible and the phenomena which are numerous and complex. And, indeed, let us listen to M. Virchow: "Is it the cell which is the individual, or is it man? Is it possible to give a simple answer to this question? I say, no! . . . The difficulty lies entirely in this: the word individual entered the language long before we were able to fix for ourselves the exact idea which ought to be attached to it. The idea of individual has become uncertain and multiple with increasing experience. If we cannot determine upon discriminating individuals in collective and simple individuals, which would be the best way to avoid the difficulty, we must necessarily erase from the organic branches of the natural sciences the idea of an individual, or consider it as intimately allied to the cell."

No, man is not a collective individual, or assemblage of simple individuals. The notion of man disappears in this idea of collection; collection is but number, and man is individuality and unity above all and for evermore. The cell, in its turn, is not individual, whatever M. Virchow may say, for it lives only in the life of the whole; it does not possess in itself its cause of existence, it does not contain within its enveloping membrane any sufficient causal unity.

There is no cell to which we can concede unity but the primitive cell, the active source of all the others. That one is really an individuality, and the most powerful, the most active that can be imagined; for it contains the entire individual, with all its native faculties, its various functions, its special and inalienable characteristics. The fecundated ovule, such is the one cell, the being and the individual in its simple and primitive expression. But, truly speaking, what is the

living being when arrived at its complete development ? Nothing else than the primitive cell, grown by its inherent activity, having generated in itself other cells which it vivifies with its own life, and nourishes in its own substance. These secondary cells have become associated into tissues and organs, have acquired special functional aptitudes : but, under these forms and these new activities, these generated cells constitute always a portion of the generating cell, which sustains and governs them so long as life lasts. Any animated being is then like a separated cell, variable in its type and development, and creating in itself all of an interior and obedient world of harmoniously associated cells. The unity of being is always in the primitive cells ; the secondary cells live in this primary unity, but have never in themselves a real and freed unity. The unity of the organic cell is a delusion, if we separate it from the unity of the organism.

The reason of individuality is wholly in this process, in this internal generation of the primitive cell, in the real and functional persistency of this mother cell ; to look elsewhere, for this reason, is necessarily to fall into the arbitrary and the fictitious.

What shall we think, for instance, of this assertion of M. Virchow : "The mystery of individuality unquestionably consists in the delicate differences of disposition and development of the isolated cells, or of the cellular groups." What means this language ? The individuality consisting of differences in the disposition of the cells ! M. Virchow is right to call it a mystery. If he means that differently disposed and developed cells are incompatible with life, and consequently with the individuality of the being, be it so ; but in what way does this give the reason of this individuality, when the cells are properly disposed and developed.

Nevertheless, as we have already seen, M. Virchow possesses the gift of contradiction ; we like to recall it here, for he himself is about to give us an idea much clearer and juster of the unity of being than that he has already afforded us.

"The individual," he says, "at the highest point of its development, carries in itself the mark of unity. However numerous, however varied the parts may be, they all form a regular community, in which each part is in relation with and dependent upon the others, in which, finally, no one can acquire all its importance, without the community. As Aristotle expressed it, whatever lives is acting for some purpose, and this purpose, as is more clearly said by Kant, is an internal purpose. That which lives is a purpose in itself. The individual carries in himself its purpose and measure ; thus, contrary to the purely ideal unity of the atom, the individual exhibits itself as a real unity." Elsewhere, M. Virchow makes use of this expression, which is strong and correct : The individual is a community, which is one.

The notion of a community which is one carries us far away from the vulgar notion of collection ; still it does imply the profound dependence of the generated cells upon the mother cell ; it does not allow of the persistency of the primitive cell being traced through the generations of cells which it has emitted ; and yet a community which is one gives the most adequate idea of the reality.

The explanation of the community which is one is to be found in the unity which constitutes and governs it ; and this unity cannot be an imaginary resultant, or a purely ideal type, an abstract law. Resultant type or law are powerless words ; they have in themselves no effective existence or creative unity. This lies entirely in a special cause, in a metaphysical and simple individuality, realised in the organisation and community of the living cells, and producing this as a cause, produces its effect.

The unity of being is, therefore, not incompatible with cellular life ; it springs from it, on the contrary, more directly than from the mechanical conception of the organism. Here the unity is fictitious, separated from the machine which it moves and governs, but which it does not create, and does not penetrate to its greatest depths. The organism exists, as it were, and is developed beside the individual cause which is connected with it. Organism and organic cause no longer live the same life, are no longer included one within the other, mutually necessary and inseparable.

Has the picture of cellular physiology, as I have endeavoured to draw it, brought out in relief the advances made by this physiology in the traditional ideas of life ? Has it shown all the strength it adds to vital autonomy ? If it be so, we can conceive of the renown, the glory, that must distinguish the name of M. Virchow, so long as pure science shall preserve its prestige in the memory of men.

THE ORIGIN OF THE ENGLISH : PIKE v. NICHOLAS.

IN the July number of this *Review* (No. xxvi), the late Editor published a report of the above important trial, without any comment. The judgment then given by Vice-Chancellor James has been reversed, and the injunction then granted dismissed. As we have not space to devote to a report of the whole case, so interesting to "British anthropologists and to literary men in general," we have thought it

just to print *verbatim* the judgment given by the Lord Chancellor and Lord Justice Giffard.

THE LORD CHANCELLOR : This case having occupied so many days, both the Lord Justice and myself feel in a condition to come to a conclusion upon the arguments that have been addressed to us.

In many cases, we have to regret the absence of counsel ; but, in the present case, we certainly have no occasion to express any regret in that respect. This is peculiarly a case requiring such minute investigation and comparison, as would render it difficult for counsel to find time to enter upon. Therefore, it is much more likely that the authors themselves, if in any degree competent to argue the case, would bestow that time and attention upon it which alone could bring fairly before the Court all the peculiar bearings of it. I think that has been done very ably, both on the part of the plaintiff, and also on the part of the defendant ; and we are now in possession of every possible portion of the two works in comparison which could be brought forward to assist our judgment in arriving at a conclusion.

In no respect will it be found that we shall lay down general principles in any way contrary to those which are laid down by the learned Vice-Chancellor. If we have the misfortune to differ from him, it is entirely in the application of those principles to the particular works before us. It is, confessedly, one of the most difficult problems brought forward for the Court to solve with reference to cases of piracy, when there is a common subject with which parties start ; when there are common authors who are open to both of them ; and when portions of the one work, which are said to resemble portions of the other work, may be deduced from those common authors to which each is at liberty to resort.

In laying down the view that I take of this case with reference to the facts, I shall, first, advert to the circumstances under which the works were composed ; and then to the question of common sources to which it is open to either party to apply himself. I think that the Vice-Chancellor has not given sufficient weight to either of those two circumstances.

First. There was a common origin of subject, which it is very important should be borne in mind throughout in the consideration of this case. The subject was originated in the minds of both these gentlemen by the prize which was offered by the Committee of the National Eisteddfod for the best essay on "The Origin of the English Nation, with reference to the question, how far that nation is descended from the Ancient Britons." It is plain that both of these gentlemen had to address themselves to a very precise and limited subject ; namely, the origin of the whole nation with reference to its descent from the Ancient Britons, which was a question that admitted of only two opinions : the one being that we were in a scanty degree descended from the Ancient Britons ; and, according to the other, that we were equally descended from them. The two views which would present themselves to anybody's mind on such a subject would be, Do the Ancient Britons preponderate, or do they not preponderate, with reference to the claim of being the originators of our race ?

Perhaps I am not taking too great a liberty with either of these two gentlemen in saying, not that their minds would be biassed by the question being propounded to them by a Welsh Society, but that, if they had not been of that opinion, which it was most likely a Welsh Society would entertain, they probably would not have been competitors for the prize. It is not, in the slightest degree, any disrespect to them to say, that it is probable they would not have taken up the view that the Ancient Britons entered very largely into the composition of the English nation if they entertained a different opinion. It is very possible they might have thought it was scarcely a subject which it was desirable for them to enter upon with regard to the Society which had offered the prize. Therefore, I find, in the outset (as is to be expected), the writers of both these treatises taking exactly the same view in this respect; namely, that the Ancient Britons largely preponderate as an element of the English nation. That being so, each of them would naturally begin to look about for the authors bearing on this question. Supposing them *bonâ fide* about to produce an original work, they would naturally look out for all the older authorities who have written upon the subject. They would naturally look to the characteristics which distinguish races. There are a variety of authors on the subject, especially Dr. Prichard, to whom, in the first instance, both of them would have recourse. They referred to those authors who discuss the subject of the origin of races as evidencing the present state of things; namely, existing histories which have come down to us of the adventures of these races; the existing evidence of language, which has been traced with so much skill by a variety of authors, both here and on the Continent; the existing physical characteristics, and the existing customs and habits of life. I purposely avoid any reference to psychological characteristics, because that is a word in controversy in this case. I believe those four characteristics which I have mentioned will be found in Prichard, and almost every author who has taken upon himself to write on national origin, as traceable in the existing inhabitants of a country. They look to their history; they look to their language; they look to their physical characteristics; they look to their customs and habits. Therefore, before approaching the question of whether or not one author has taken from the other, it must be borne in mind that a great deal of similarity will naturally be expected to be found in the works of authors writing on such subjects as these.

Then, secondly, as to the common sources. When once it is established that there are common sources, it will naturally be expected that there will be great similarity in the statement of the facts which are narrated in those common sources. Accordingly, there may be traced, throughout the work of the defendant, a great similarity to the outline and plan of that of the plaintiff. With regard to that part of the case, I think that the Vice-Chancellor has laid a great deal too much stress upon the fact of the divisions of the subject in the defendant's work being similar to the divisions of the subject in the plaintiff's work. I am assuming at present that the defendant's evidence—I mean what he has stated on his oath—is not to enter

into the matter at all, but that we must look only to those documents which are admitted on the part of the plaintiff to be genuine. The documents marked A and B must be admitted, on the part of the plaintiff, to be genuine, because the Vice-Chancellor has taken them as admitted, and did not seem to suppose that there was any controversy about them. Looking to those documents marked A and B, which are the manuscripts of the original treatise, so far as it is called original by the defendant, I find in B these very elements drawn out, and, I think, very naturally drawn out, which we find in the plaintiff's work. One of the first points which is raised by the plaintiff, as showing the merit of his composition, is the division of the subject into particular heads. The defendant has divided his work, although not in precisely the same way, still very like that of the plaintiff. But, I think, regard being had to all that has been written by the authors on this subject, we must take the defendant, in his first treatise, which he sent in for competition in 1864, and which was before he could possibly have seen the plaintiff's treatise, to have originated a division which is proper and peculiar to a subject of this character. I find in Manuscript B physical, mental, and moral characteristics referred to. It is true that history does not come in there, although there is a great deal of history referred to in the earlier part of this treatise. Under the large heading, "Physical, Mental, and Moral Characteristics," there is a note, "See Prichard"; showing, therefore, that he was about then to have recourse to that source of information. There is this note, "See Prichard, see Mallett, and see the papers of the Anthropological Society." Then I find, under the head "Physical," "Physiology, Complexion, and Craniology."

Then, starting with this, as regards the plan of the works (and this is a part of the case on which the Vice-Chancellor seems, in some degree, to have relied as indicating a taking of the one from the other), we find in the undisputed document A the same divisions, with the exception of history, as are to be found in the other. We find, also, a reference to Prichard's work, which is one of the common sources to which both the plaintiff and the defendant are very largely indebted. Further, there is a general plan. A good deal of observation has been made as to one plan being taken from the other, with reference both to colour and craniology. It is carried on at some length in B. I do not say the length to which it is carried on; but, certainly, there is enough in B to satisfy me that, without seeing the plaintiff's book, the author, in treating of this subject, which was common to both of them, had arrived at and mapped out a principle from the other authors who have written upon the subject—(I will refer to the manner in which he has arrived at it presently)—including, under the head of "Physical Characteristics," the question of colour, in which is comprehended the skin, hair, and craniology, or form of the skull.

Now, as regards the common sources, I apprehend that, when once it is established that there are common sources upon a particular subject, it amounts to nothing at all for the plaintiff to say, "The defendant has cited author after author who have been cited by me"; because, when the common sources are referred to, it will be found

that they both got them from the same common sources. Therefore, it was most probable, when they were each treating of a particular subject, that they should take all the passages from those common sources which would assist them in the development of the subject which they were treating of. Therefore, to find Suetonius, Tacitus, Cæsar, and so on, cited in the one book and in the other, really comes to nothing when it is found they are both citing the identical passages which are, for the most part, to be found in Dr. Prichard's book, to which both have recourse.

However, I was very anxious to learn whether either the plaintiff or the defendant had cited any author in addition to those referred to in this particular portion of the plaintiff's work, which is supposed to be invaded on the part of the defendant. The plaintiff informs me that he cited Xiphilinus, the Greek author. There is only a reference to Xiphilinus as being in the *Monumenta Historica*, and he is the only author upon this part of the subject whom the plaintiff has not cited. But, then, says the plaintiff, the defendant gives the identical meaning of the particular passage cited in my book, the passage cited being with reference to Boadicea having yellow hair. The defendant in another passage, not referring to Xiphilinus, and not making the same quotation at all, speaks of Boadicea having been described by the author as having golden hair. Far be it from me to say that I have read enough of the authors who treat of Boadicea (and they are very numerous) to say that nobody describes her as having golden hair. Xiphilinus describes her as having yellow hair. The defendant has not taken the identical words which this gentleman is said to have taken from Xiphilinus. It is impossible for the court to fix upon the defendant a knowledge of the plaintiff's work, or a quotation derived from the plaintiff's work, simply because the plaintiff, having quoted Xiphilinus, who describes Boadicea as having yellow hair, the defendant says there are authors who call her golden-haired.

On the other hand, the defendant has quoted an author taken from Prichard, Calpurnius Flaccus, who is not quoted by the plaintiff. The defendant has added to his quotations a passage from Tertullian, although he has not told us where he got it, which is not inapt to the subject. It does not bear upon the particular question of the natural colour of the hair, but it bears upon the subject of the "*rutilata comæ*," which I will say a word upon presently, namely, the habit and custom from a very early time of people tinging their hair. For that he introduces a quotation from Tertullian, complaining of the women of his time taking upon themselves to so colour and deform their hair. These circumstances show clearly that the defendant went to the original source, namely, Prichard, and that he got these quotations from Prichard which the plaintiff got from Prichard.

Although the defendant may have been led to look more minutely into Prichard than he otherwise would have done by referring to the plaintiff's work, having found the passages in Prichard, still I apprehend the plaintiff cannot say, "I, having found these passages in Prichard, will prohibit all the world, who may find the same passages, from making use of them." He cannot do that. The moment he has

given that degree of light to the defendant which has led him to refer to that common source, if the defendant does really *bonâ fide* look at that common source, he does all that this court requires him to do. He must not simply copy the passage from the plaintiff's book, but having been put on to the track, and looked at that particular part of the book which the plaintiff has led him to, he is entitled to make use of every passage from that author which the plaintiff has made use of. Perhaps I am not doing the defendant quite justice when I say that looking into Prichard was wholly suggested to him by the plaintiff's book, because I find in B, the manuscript which I have referred to, this note, "See Prichard," although he does not mention the volume, or part of Prichard which he says has a bearing upon this subject.

This really does remove a vast portion of the subject which seems to have impressed the Vice-Chancellor very forcibly. The Vice-Chancellor says: "Here is a common plan; here is a common origin; the plaintiff has got this plan; the defendant has got this plan; the plaintiff has these citations from these authors; he cites Suetonius; the defendant cites Suetonius; the plaintiff cites Tacitus; the defendant cites Tacitus," and so on. If you refer to the common sources from which these things are cited, then you reduce to a very material degree any legal consequences that can result from the circumstance of the books having similarity in treating of these particular heads, for instance, similarity of plan, similarity of dealing with a particular portion of the subject, namely, the questions of the yellow hair, and the formation of the skull.

Before leaving this branch of the subject, there is one point upon which I confess the defendant has not satisfied me, to which I wish to advert. The defendant has not satisfied me with reference to the quotations from Retzius, that he did not take the second quotation from Retzius from the plaintiff's book. He has cited two passages from Retzius, and in doing so falls back on another common source, namely, Lyell, and quotes a passage from Lyell. I think he was perfectly justified in taking the passage from Retzius which is to be found in Lyell. So far there is nothing to be found fault with on the defendant's part. But there is another quotation from Retzius which is not to be found in Lyell, as to which the defendant has neither in his opening nor in his subsequent explanation afforded the court any ground for saying that we are satisfied (or I should rather say that I am satisfied, as I am now speaking for myself) that he got it anywhere else than from the plaintiff's book. To that passage, and that passage alone, I would apply the Vice-Chancellor's reasoning. I have stated already that I agree with the Vice-Chancellor's reasoning, and that I only differ from him in his application of that reasoning to the facts of this particular case. The Vice-Chancellor asks very justly: "If you did not get this passage from the plaintiff's book, tell me where you got it." That is a very reasonable question to be asked of the author of a subsequent work, which contains a passage from a prior one: "If you did not get it from him, where did you get it?" I think the defendant has satisfactorily explained all the passages contained in the common sources except that passage from Retzius, as to

which he has not satisfied me, I confess, for I am of opinion that he took that passage from the plaintiff's book, namely, the second passage, where it is quoted as being at page 64. It turns out, by a very curious circumstance, that it does not refer to page 64 at all, but looks very like a designed alteration of the paging for some particular purpose. I certainly am of opinion, upon the evidence before me, that that single passage was taken from the plaintiff's book.

I had another doubt as to the words "*rutilatæ comæ*," which occur in the same branch of the subject. There is a passage in Livy which applies to the Galatians. The Roman general is addressing his soldiers about to engage in battle with the Gauls, who are supposed to be descended from the followers of Brennus, who flourished some seven or eight hundred years before in Asia Minor. In addressing them he says: "Do not mind these people; do not be alarmed by their *rutilatæ comæ*." He speaks of their having "*rutilatæ comæ*," and not "*rufi*," or any other word expressing red hair. In Prichard, where this passage is taken from, you have the Galatians expressly mentioned. Therefore it would be, I think, open to the plaintiff to use this argument, and to say, "If you had really gone to Prichard you would have found it was the Galatians who were alluded to, and you would not have fallen into the mistake which I fell into of speaking of these people as Gauls." I think that argument falls to the ground in the instance also of the passage from Calpurnius Flaccus, which the plaintiff did not take. It is of no use for the plaintiff to use this argument in order to show that the defendant did not go to Prichard, because I think there is a strong and conclusive argument to show that the defendant did go to Prichard. Therefore, on that part of the case, I do not think the plaintiff makes out anything in his favour by showing that they were Galatians, and not Gauls. Prichard makes a mistake—whether through carelessness in translation or not it is unnecessary now to inquire, but all through he calls this "red hair," instead of calling it "reddened hair." The plaintiff says: "I do not fall into that error; from my classical education I see the force of the word '*rutilatæ*,' and I translate that 'reddened hair.'" That leaves it, in fact, to a discussion upon people in ancient times adopting the custom of colouring their hair.

Then, can it be said that the defendant has done exactly the same thing? Of course I cannot assume that the defendant does not know Latin. His motto is perhaps rather a peculiar one; but he has read to us several passages in Latin sensibly and intelligently, and in a manner which appeared to me to show that he understood what he was reading. Some of those passages which he read were of considerable length. I am bound to say, therefore, that the defendant is acquainted with Latin, and if acquainted with Latin, I cannot say that he could not translate the word "*rutilatæ*" "reddened," just as the plaintiff has translated it "reddened." Besides that, he evidently seems to be well acquainted with German, and he says that he has looked at the German translation from Livy, and he finds exactly the same translation of the word "*rutilatæ*" as the plaintiff's, namely "reddened," that is to say "red-coloured," showing, therefore, that

from his own resources he might very well have been led to that, even if it is assumed that he was not well acquainted with Latin. In addition to that there is a French translation, which contains exactly the same expression.

I do not think, therefore, that the conclusion can be come to that, from the use of those words, there has been a copying from the plaintiff in that respect. Presently, I will say to what extent I think the defendant did go to the plaintiff's work ; but, at present, I may state I am of opinion that the plaintiff has not made out a slavish copying by the defendant beyond the mere fact of his being put on the scent of what authors to look to ; and, looking into Prichard, he dealt with the quotations as he found them, adding something of his own upon the subject of red hair ; and quoting, also, the passage from Tertullian. Therefore, so far, I think, the Vice-Chancellor has laid a great deal too much stress upon these similarities, which are numerous, but which are well and properly accounted for, considering that there is a common subject propounded, a common mode of treating that subject which is open to both ; that it is a subject which the defendant meant to treat in that way, as appears from his manuscript B. With regard to all the various passages from the Latin authors—coming out of Prichard, with the exception of Retzius, whom I have referred to as the German author—you find the defendant has been to that common source, has worked out of that common source, has laboured there, and has produced something of his own, in addition.

Before going to the branch of the case which refers to Gildas, which is a separate part of the work, perhaps I had better dispose of the subject of the colour of the hair and complexion, by referring to the question of the tables. I am not satisfied that the defendant has told us fairly all that took place with reference to those tables. I am not satisfied, especially, that he looked to the tables of 1861. The evidence inclines me very strongly to form the opinion that he did not do any such thing. It is remarkable that the plaintiff, taking the table of 1841, was obliged, with reference to the London population, to have recourse to the two tables for Middlesex and Surrey as the only tables he could well get at to give the metropolitan populations, because, in 1841, London would signify the City of London proper. In 1861, the defendant, if he had recourse to those tables, as he says he had, was not under any such obligation, because then he had the metropolis proper laid out before him. The subject matter in hand, both of the plaintiff and defendant, was, What is the state of the colour of the hair generally of the inhabitants of the metropolis ? With reference to the colour of the hair and the shape of the head, both parties took up the notion that the dark coloured hair and the long shaped head were the characteristics of the Celts or the Cymri, whichever we take them to be ; the theory being that, as London is a central point to which people are gathered from all parts of England, that would be a very good point from which to make observations to see from whom the bulk of the English nation is descended. Here there is taken a general mass in the metropolis, from which, it is said, the average of Englishmen may be inferred. Therefore, in the

first place, whether true or not, you will find an average. To arrive at that, you say you will look to the population tables, in order to see whether, in fact, London does consist of its own denizens entirely, or whether it does not consist of a large proportion of others also; if half and half, you may take that as a very fair average of the whole country. I may just observe, in passing, that the plaintiff lays some stress upon treating the subject of London in this point of view. The defendant says you will find that idea brought forward in the Cambridge Essays, by Professor Donaldson; namely, that London is a kind of centre upon which this experiment might be easily made; in fact, that London may be taken as giving a fair average for Englishmen, from the compound of persons who flow there. I am bound to say that I find in B, which is one of the undisputed documents, this idea set forth. Therefore, as far as this idea of looking at London is concerned, I do not think it is one which is borrowed from the plaintiff. I think the defendant, before he saw the plaintiff's book, formed the notion of taking London as the centre upon which experiments might be made. The experiments do not themselves appear. The plaintiff's mode of making the experiments was this. He took Middlesex and Surrey, which is a very rough estimate, because it involves a number of other elements, which ought not to have come into the calculation, and said that he found in 1841 the proportion of extraneous people to the denizens to be one-third. As the plaintiff says, this was before railways brought so many people to London from the provinces. Then the defendant, in his book, says: "On looking to the tables, I find the proportion is somewhere about half country people to half Londoners"; and then he refers to the table about Surrey and Middlesex. He really had nothing to do with Surrey and Middlesex; for, if he referred to the return for 1861, he would have found the metropolis all ready to his hand; and he might, without any difficulty or error, have taken those as the best sources of information. I must say that I cannot, in my own mind, come to the belief that he did look at the tables of 1861. If any theory could be formed upon the subject, in my opinion it would be this—that the plaintiff having said that before the time of railways this was about the proportion, I think I may reasonably add something to that calculation, which would bring it to about half.

Again, upon the question of piracy, I think, with regard to Retzius, that that is the second point upon which the plaintiff is right in saying that that idea was originally taken from his book. I shall presently consider as to what the effect of that will be upon the question of whether the Court ought or not to grant an injunction against the defendant's work. I think I have now disposed of that part of the case.

I come next to the part of the case which relates to the two passages of the defendant's book which have been enjoined by the Vice-Chancellor. The first passage enjoined by the Vice-Chancellor is with reference to Gildas; and with regard to Gildas the case is reasonably clear to my mind. I consider that the defendant had thought about the existence of such a work as Gildas before he saw the plain-

tiff's book. I think it must be so, for there is an absurd mistake ; I mean absurd, because persons who profess to give information upon this subject, and to look at old authors, ought to know much more about them than the Court can be expected to know. There are persons who make these old authors their particular study. There is a mistake in the statement of Gildas having copied Bede. That would certainly tend to show that he had not looked into the plaintiff's book. From his own manuscripts A and B, it is clear that he knew that there was such an author as Gildas ; he knew that that author made certain representations which had a bearing upon the subject he was treating of, and he thought that he was an author to be looked into. I think in E there are traces that he was going to write about Gildas without considering the plaintiff's book, because there is a fragmentary note begun which is not ended, and then comes in a whole set of new pages. I think it is clear (and he admits it) that he added the passage about Gildas after he knew of the plaintiff's book. There is no dispute about that now whatever, although there is in the answer, upon which I shall comment presently. Therefore, it must be taken that the passage about Gildas was written evidently with the plaintiff's book before him.

Then the question is, what use has he made of it? He does not say that he has made any use of the plaintiff's book at all. The worst part of the defendant's case is, that he does not make the frank admission—which I think he was bound to make—that he made use of the plaintiff's book ; but he says that he went to the common sources, such as the *Monumenta Historica*, and that is all that he did. I think he did go to the common source. The plaintiff, who has argued his case extremely well and fairly, says, "I do not doubt that you examined the *Monumenta Historica*, but you have made a great deal more use of my book than you ought to have made." It must be taken, therefore, as admitted ground, on the one hand, that the defendant used the plaintiff's book in writing his observations on Gildas ; and, on the other hand, knowing that the subject is treated of in the *Monumenta Historica* of Sir Thomas Hardy, which is a very interesting and able work, he went to that work, which he says they went to in common.

Then what the defendant presses on the court with regard to Gildas is this : first, he raises a doubt, as the plaintiff does, as to whether Gildas ever existed, which he says is not to be found in Hardy ; secondly, he says, you will find, with regard to Gildas, that the plaintiff made a mistake, being misled by a passage in Hardy which he did not quote in full. The plaintiff says I did not make the mistake myself, but I introduced a passage which might lead others into the mistake of looking at Nennius, who was a much later author than Gildas ; the defendant has fallen into that error, and having fallen into that error, he puts down Nennius as copying Gildas. On the first point I do not find a doubt suggested in Hardy's *Monumenta Historica* as to whether Gildas ever existed. I think it is very possible such a doubt as that may have come for the first time into the defendant's mind from looking at the plaintiff's book. With regard to Nennius,

it is quite clear to me that when Hardy is looked at there is nothing to show that Nennius was so contemporary with Gildas as to make it impossible that he should copy Gildas. On the contrary, the defendant has read to us passages which clearly show that the inclination on Sir Thomas Hardy's mind is that it was a copy; because he, in his preface to the *Monumenta Historica*, gives certain passages, which he says resemble such and such authors, and then about three sections which he says resemble Gildas. The inference to be drawn from that passage in the *Monumenta Historica*, and I think it might be an inference fairly drawn by the defendant, would be that Nennius must be taken as having copied Gildas, and that he makes no mistake in doing so, unless Sir Thomas Hardy himself was mistaken. Then, however, says the plaintiff, "My observations upon the character of Gildas, and his prejudiced and exaggerated views, are wholly taken by you." Upon this part of the case I confess I am wholly with the defendant. I think the defendant has taken a totally different line from that of the plaintiff. The plaintiff may have suggested a new line of argument, and very probably he did, but the defendant has taken up a totally different view on the whole. Of course anybody who reads the book can see that it is written in an exaggerated and inflated style. That may be a matter of common observation, because when attention is directed to the *Monumenta Historica* it will be at once seen that it is there. In the plaintiff's book there is a passage in which he says the man was mad (in fact, it comes to that), from his exaggerated views with reference to all the human race being so exceedingly corrupt. But the defendant takes a passage from Gibbon out of the *Monumenta Historica*, again showing that he has referred to that work. The passage from Gibbon is not quoted by the plaintiff; he goes to a common source, Hardy's book, avails himself of that passage from Gibbon, and, availing himself of that passage from Gibbon which describes him as a monk, he goes on to reason, rightly or wrongly, that the whole book indicates a hatred of the British and a love of the Romans—not of the Roman Church—but that he was a man who liked Rome but hated Britain. That is the purport of the whole book. He gives the passage about Boadicea, and treats everybody British exceedingly ill. What he says of Gildas is that Gildas is not a trustworthy author, not merely because he has inflated views, but because all his inflation is in favour of Rome. He flatters the Romans in every possible way, and speaks ill of all Britons; therefore he would naturally come to the conclusion with reference to these poor wretched weak Britons, that the moment they were deprived of Roman assistance they would fall a prey to the Saxons. I think that is a different line of argument to that of the plaintiff, as appears from the text of his work. They both want to destroy the credit of Gildas, because if Gildas existed as an author, the title of his book, *De Excidio Britannicæ*, refers to the total destruction of the British race; and that would militate against the theory of both. The conclusion I come to on the whole passage is, that the defendant, using this passage of Gildas, and finding, therefore, that Gildas might create some difficulty, inasmuch as he describes the total destruction of the British, had reference to Gildas in his mind, but

probably not knowing how much might be said on the subject, he read the plaintiff's book, and found there a reference to Hardy, and then, making use of that reference to Hardy, found in Hardy all these passages, no doubt meditating in his mind (and that I have not any doubt about) a great deal of what the plaintiff has written upon. He writes a line of argument which cannot be fairly designated the same line of argument as that of the plaintiff, but must be taken to be a line of argument of his own, beginning with describing the man as a monk, and ending with those passages which show that he had a violent prejudice from beginning to end against the British name and nation.

The result, in my opinion, of an examination of the whole case is this. I think the defendant was led to look into the particular portions of Prichard by some of the quotations of the plaintiff. I think, being directed to that part of Prichard, he did go to Prichard's book, for I find in his book a passage omitted by the plaintiff. He was directed, by a passage in the plaintiff's book which refers to Gildas, to inquire into Gildas, which possibly he never might have done if the plaintiff had not led the way by pointing to that author and the work of Sir Thomas Duffus Hardy. Upon perusing Sir Thomas Duffus Hardy's work, the defendant finds an account of Gildas, and a reference to Nennius, and also the remarks of Gibbon; and then he follows out those remarks by such remarks as he makes himself upon the whole subject.

Where it seems to me, I confess, that the Vice-Chancellor has failed to do justice to the defendant is in this respect. He lays great weight on the common division of the subject, which I have already gone into. I think that is not a matter fairly admitting of the weight which his Honour has attached to it. He lays great weight on the fact of this author being cited. The plaintiff says, "I cite Suetonius, and so do you; I cite Tacitus, and so do you"; and then the Vice-Chancellor winds up by asking, "If you did not get them from the plaintiff, where did you get them from?" I think the answer to that question is, if there be a common source, that he got them from that common source. Then, when the Vice-Chancellor says, "You do not show where you quarried, or what you did"; I do not think you can take the plaintiff as having quarried anywhere but amongst well known authors. I do not think the plaintiff represents himself as having gone out of his way. He goes to the ordinary sources, unless we except the catalogue of authors consulted, of whom there is a very long list. But because he has made out a catalogue of authors consulted, he cannot be held to be exclusively entitled to that list, for very likely he did, what we know authors very often do, represent to the world that they have consulted a long list of authors, when the fact is that many of them they have not looked into at all. I think it cannot on that account be said that he has damaged or injured the plaintiff.

Having come to the conclusion which I have expressed with regard to Retzius, that there was a taking from the plaintiff's work of that particular quotation, and with regard to the population tables, that there was a suggestion made by the plaintiff which the defendant

availed himself of in order to make his estimate a larger one than that of the plaintiff, namely, half instead of one-third, we have to consider exactly how the case stands with reference to granting an injunction in such a state of things as that. I have no doubt the course of procedure adopted by the defendant is open to a great deal of observation. The course of procedure adopted by him in conducting his case has led the Vice-Chancellor to a conclusion more adverse to the defendant than I think the proof altogether justifies. But I think the Vice-Chancellor had great reason to entertain a very strong feeling of distrust of the defendant's case. First, there is the answer, which undoubtedly states the case in a manner which, if not intended, as I trust it was not intended, to mislead, was calculated in the highest degree to do so, because it decidedly represents the defendant's manuscripts as being in existence before he knew anything at all of the plaintiff's book. He says they were in the same state as that in which they were submitted to Professor Max Müller, and the other gentlemen to whom reference has been made. Although he says they were in the same state, there are some words which point to some exception. At that very time it was known that the passage about Gildas was a passage which was likely to be impeached, because there is the evidence of the defendant's own solicitor that they called attention to that passage, and that they talked over that passage. No human being can doubt that it ought to have been mentioned. It is astonishing to think that two minds could come to the conclusion to allow that answer to be sworn to containing that passage. I say that was enough to mislead the plaintiff grievously, because the plaintiff would naturally say, "Now I have something definite to go upon; I have this document, and if I am told that every word of this was written beforehand, I must fight my battle dealing with it as I best can; I must get up a very different class of evidence to what I otherwise should have got up; I must try and shake that part of the defendant's case." If the defendant had said simply this, "I wrote that passage about Gildas after seeing the plaintiff's book," he might have spared the plaintiff the necessity of calling a great many of the witnesses who were called, and have saved a great deal of the cross-examination, and therefore a great deal of time to everybody concerned in the case, including himself. But having made that statement, it becomes a simple question of how far, upon a fair comparison, are those things to be taken? The defendant having put in that answer laid himself open to the species of cross-examination that he was subjected to, and the pressing observations that were made upon the doubtfulness of his testimony. That justifies me in feeling the doubt, which I do feel, unquestionably, very strongly, upon his testimony with regard to the passage from Retzius, and as to the mode in which he arrived at his calculation with reference to the persons inhabiting London. If the defendant had been disposed to do what common fairness and justice required him to do, to say nothing of the oath which he took when he put in his answer, and had fairly said, "I acknowledge my obligations to this gentleman in putting me on a course of thorough critical investigation of Gildas, to begin with; I beg to express my obligations to him in giving me the idea

through the medium of the tables to which I have made resort of investigating the population of London, and the subject of the number of persons brought up from the country, and I beg also to express my obligations to him for pointing out that passage in Retzius which escaped my attention," nobody could have blamed him as being a pirate, or say that what he afterwards did amounted to piracy. That, unfortunately, was not done. All these investigations were made upon the ground of having to deal with a man who was not to be depended upon. I so far agree with the Vice-Chancellor, that if once a man is found not to be relied upon, I should reject everything depending on his testimony. I have not in anything that I have said to-day relied in one single point upon the testimony of the defendant. I have relied simply on the manuscripts A and B, because I find them to be undisputed. The result of my opinion is, that if he had stated fairly what now upon investigation appears to be the fact, all that could have been said by him would have been this; "In dealing with a common subject, I naturally divided my work in the same manner as the plaintiff has divided his work" (and I think, on looking at it, any one would say that he would probably have done so without consulting the plaintiff's book). "I have dealt with Gildas by going to the authority you have cited, the *Monumenta Historica*, and have formed my conclusion upon that which in some respect agrees with yours; you have thrown out a suggestion, whether the man existed; I have taken that idea, but have added a notion of my own; you draw up a scheme in which you show that one-third of the population of London in 1841 came from other counties; you will admit that railways must have made a difference; taking that into account, I estimate it at about one half." If he had said all that, could anybody possibly have said that that is plagiarism, that one work is copied or pirated from the other, in such a sense that this court will restrain by injunction his proceeding to make use of the materials so taken? I apprehend clearly not. It seems to me, with regard to the last point about the population tables, that it is not at all tenable. It is only saying, "You got so much in 1841 by your calculation from the tables; I will make a guess as to what is the probable result of what has now happened." As regards the single passage of Retzius, that would be an admirable *indivium*, if other large parts had been quoted, and were not satisfactorily explained, to the *animus furandi* with which the work had been undertaken; but if you find that there is nothing to an extent to which an injunction could operate, then the *animus* with which anything had been done is out of the question. The most that can be said of it is that it is an unhandsome thing. I am bound, in justice to the plaintiff, to say that his book has been unhandsomely dealt with by the defendant, and that there has not been that recognition of the plaintiff's work which there ought to have. Further than that, I think that the passage in the answer I have referred to does justify us in saying that we ought not to give the defendant any costs, because it seems to me that that passage has occasioned a great deal of the litigation, and that if the whole matter had been stated in the answer in a straightforward manner, and clearly, and at once, as it has been sub-

sequently stated, the plaintiff might possibly have stopped the suit altogether, and certainly would not have incurred anything like the expense he has been put to in carrying it on. I am of opinion that the bill should have been dismissed, but, under the circumstances I have referred to, dismissed without costs.

Lord Justice GIFFARD : I have only a few general observations to add to the judgment which the Lord Chancellor has just delivered. First, with regard to the general nature of the two books. Beyond all doubt, in this case, the plaintiff undertook a more formidable task than was ever undertaken before in any copyright case ; because there is the fact, that the two parties started with exactly the same theme to treat of. That is beyond all question. These books were written with reference to a prize that was proposed to be given by a society in Wales. They started with a desire to arrive at, as nearly as possible, the same conclusion, and with a desire, no doubt, to glorify the Ancient Britons as much as could well be done. If we add to that reason that what may be termed the platform divisions, by means of which they worked out their book, were very nearly the same, and, as far as I can tell, for the most part taken from Dr. Prichard's book, we have them at once starting entirely in the same groove. If we add to this, that their books consist mainly of results gathered from other authorities, they cannot, in the true sense of the word, be treated as original, except to a very slight extent. Then, we may add that—which the Vice-Chancellor laid down most accurately in his judgment—"there is no monopoly in the main theory of the plaintiff's, or in the theories and speculations by which he has supported it, nor even in the use of the published results of his own observations." If you add that to what I have stated, it will appear at once that the task undertaken by the plaintiff was almost impossible, unless he could shew that there were passages either actually copied, or copied with mere colourable alteration. It will not do to show merely one or two passages, but some material part of the book must be shown to have been taken. I confess, in considering this case, having looked through the books very carefully, I am of opinion that the only two points on which the defendant has been completely touched are the points as to Retzius and the population returns, as to those things which are called observations in the table. As to Retzius, it is my belief that the defendant took that from the plaintiff's book ; but taking that one passage from the plaintiff's book would be no ground whatever for granting an injunction. As regards the population returns, it is my belief that the defendant did not go to the 1861 tables ; and it is my belief also, that what he termed his observations were founded upon calculations from the plaintiff's table ; but that, again, would be no ground for granting an injunction. If, in point of fact, the defendant had confessed that he had done that particular thing, the answer would have been at once, that is a use which you may make of the materials which are furnished to you by the plaintiff in his book. The plaintiff in respect of that is not entitled to an injunction, for it is neither copying, nor copying with a colourable alteration. Then, this further observation may be made,

that upon referring to manuscripts A, B, C, and D, it is beyond all question that great labour and a large amount of time must have been employed, if the mere labour of writing those manuscripts and nothing else is considered ; but I am satisfied that the defendant bestowed a great deal of labour and time on those manuscripts. I am satisfied, also, that there was on his part, at all events, some research. I am also satisfied of this, which, when you are dealing with a question of copyright with reference to books such as this, is of great importance—that the book of the defendant is his own composition, in this sense, that wherever he got the materials from they were worked up by him into his own language. I have no doubt that is what the Vice-Chancellor refers to when he says that the defendant was very skilful in using materials which he had gathered from other sources, and had worked them up in his own shape and language. Certainly, however, between the style of the plaintiff and the style of the defendant there is a very material difference, and no one could, I think, well suppose that the defendant wrote at all in the plaintiff's style, still less, that the plaintiff wrote at all in the defendant's style. Then, that brings me to the conclusion. I will not go through the particular passages which the Lord Chancellor has adverted to—that there has been really no such use made by the defendant of the plaintiff's book as entitles the plaintiff to an injunction. I am satisfied, however, that the defendant is much more indebted to the plaintiff's book than he has at all admitted. I am satisfied that the mere suggestion to the defendant with reference to Gildas was from the plaintiff's book. I am satisfied that he has also made use of other suggestions from the plaintiff's book ; but, still, that he has not made use of them in such a way as to entitle the plaintiff to an injunction. I have not the least doubt that the defendant examined for himself the prior authors to whom reference has been made, especially Hardy's *Monumenta Historica*, Prichard's *Physical History of Mankind*, and probably he had some other resources. That being so, I think no injunction can be granted ; and, as I have said before, where we have a book which is really the composition of the defendant, written in his own language, and bearing in mind the circumstances attending the writing of these two books, it will be seen that the plaintiff undertook a task which was morally impossible. When we come to deal with the costs, I have no hesitation in saying that I am rejoiced to think it is in the power of this court to dismiss this bill so that, at all events, the defendant gets no costs of any kind, or in any shape. I say I am rejoiced to think so, because, in the first place, the answer contains a passage which was not justified, which, to my mind, it is hardly too strong to say was wholly untrue ; and I am rejoiced to think so, also, because I do not think, in reading through the defendant's evidence in the court below, that that evidence was ingenuous. I am satisfied that he put his case far too high, and in a way that was in some respects wholly untrue ; and if the Vice-Chancellor granted an injunction against him, the defendant has only himself to thank for it. I do hope and trust that it will be somewhat of a lesson to him ; and he will act far wiser if he deals in these matters fairly and openly, and

when he takes the labour of another to acknowledge it. To some extent he has taken the labour of the plaintiff in this case ; and if he had freely, fairly, and openly acknowledged it, it is my belief that the plaintiff would never have come into court, or if he had simply told him, when he put in his answer, what the truth of the facts was.

The LORD CHANCELLOR : There will be an order discharging the order of the Vice-Chancellor, dismissing the bill without costs, and the £70 which he has paid must be returned.

Dr. NICHOLAS : I have paid £70 by way of damages, and I have also paid a deposit.

The LORD CHANCELLOR : The deposit will be returned ; any money paid must be refunded.

Lord Justice GIFFARD : No costs of any kind.

The LORD CHANCELLOR : No costs.

ON THE ANTHROPOLOGY OF DEVON AND CORNWALL.

By JOHN BEDDOE, M.D., President Anthropological Society of London.

MATERIALS for the history of race-elements in Devon and Cornwall are tolerably plentiful, if not very solid. It is my intention, however, in the present paper, to deal rather with the ethnography of modern Damnonia than with doubtful or disputed points in its history. I will, therefore, do little more than remind the reader of some of these, such as the presence or settlement in Cornwall, at an early period, of Phœnician, or other Shemitic colonists or traders, and the somewhat more complete Romanisation of Devonshire than of some other parts of England, supposed to be evidenced by peculiarities in the modern dialect, which have been examined by Sir John Bowring. Be these things as they may, we find, about the seventh century, a compact and undisturbed Welsh population in these two counties—a population, that is, which was called Welsh by its West-Saxon neighbours, and which doubtless spoke the Cornish language. Gradually, these neighbours began to make settlements in Devon. It has been pointed out that the conquests made by the West Saxons after their conversion to Christianity, would probably be attended with less of bloodshed and extermination of the old inhabitants than those made while they were still heathens, and therefore alien to the invaders in religion as well as in blood. Certainly, even in Somerset, some Welsh landholders survived the Saxon conquest, as is shown by the well-known provision of a weregyld or blood-price for such Welshmen, in the laws

of Ine. The tide of invasion which submerged probably the majority of the old Keltic aristocracy, left some of them encircled like islets in the midst.

It is probable that the same thing occurred in the subsequent conquest of Devon, and to a greater extent. For Somerset was overrun by a regular tide of successive waves, the invaders pausing, apparently, after each advance, until they had pretty thoroughly assimilated and Saxonised the new acquisition; and not until this had been effected do they seem to have thought of moving on their frontier a stage further. Accordingly, North and North-East Somerset are more Saxon to this day than Mid or South-East Somerset, and these more so than the western part of the country. But the settlement of Devon seems to have been otherwise effected. The three slices of Somerset were carved from the dominions of a hostile and still formidable state, which seems thereafter to have had a lower and dependent status. Accordingly, we find Egbert subduing the whole country, and Earl Ordgar ruling in Devon, or in part of it, long previous to the time when Athelstan, apparently to punish disaffection, drove out the British inhabitants of Exeter, who seem thitherto to have had a quarter and a municipality of their own. From such facts as these, and from the comparatively small share which Devonshire men, always excepting those of Exeter, seem to have taken in the history of the later Saxon period, we may draw an inference which will, I think, be supported by the names of places in Devon and Cornwall, by those of persons about the same period, as found in the *Codex Diplomaticus* and in *Domesday*, and by the physical aspect of the populations. The inference is, that Devon remained for a long time a sort of borderland or march, probably not very thickly peopled, in some parts or villages of which Saxon or Saxonised colonists settled down *en masse*, giving English names to their locations; while elsewhere invading thanes ruled over British churls and thralls, or British landowners were left undisturbed in their estates. Mr. Isaac Taylor gives strong reasons for supposing that a little colony of Danes settled down to the north of Dartmoor, and conferred Danish names on their settlements; and this could hardly have occurred in that quarter unless the country had been desolate, or nearly so. The position of Earl Ordgar's hold on the estuary of the Torridge, the story of Hubba's invasion, the character of the adjacent district, open and easy of access and of conquest, when compared with South Devon or the regions of Dartmoor and Exmoor, and, as I shall show presently, the physical characteristics of the modern inhabitants, all conspire to make me think that Bideford and its neighbourhood were among the earlier acquisitions of the Saxons, and that these may have been subsequently reinforced by

Scandinavian settlers. And it may have been through extension of military occupation from this quarter, that the extreme north of Cornwall acquired so many Teutonic local names.

Before the Norman Conquest, even Cornwall had been thoroughly reduced, so that even there, as well as in Devon, in the time of Edward the Confessor, the majority of the landowners bore English names. But the fact that, except in the extreme north-east, there are hardly any villages with English names, is sufficient to show that no considerable immigration took place across the Tamar.

As for the use of the Cornish language, that seems to have lingered long in South Devon, and probably around Dartmoor; it has even been said, but I forget on what authority, not to have become extinct, to the east of the Tamar, before the reign of Elizabeth. Language is generally a very uncertain evidence as to blood; but, in this case, the continuance of the Cornish language, if it really did continue, to so late a period, coupled with the fact that no considerable migration of any kind has since taken place, must be taken to imply that the great majority of the South Devonians are still mainly of Keltic blood.

Mr. Freeman, on evidence given in the second volume of his *History of the Norman Conquest*, thinks that the district between Exmoor and the sea was not thoroughly Saxonised when Earl Harold landed at Porlock, in the reign of Edward the Confessor; and what that district was, the southern valleys of Exmoor, within the Devonshire border, would probably also be.

I come now to the physical characteristics of the people, as they appear to a stranger approaching from the east, and comparing them with those of strongly Teutonic counties, such as Norfolk, Kent, Hampshire, or part of Wiltshire.

The most notable points are perhaps the greater squareness of the chest and shoulders; the prevalence of dark and the frequency of black hair; and the greater breadth of the cheek-bones and angularity of the lower jaw. The form of the head also is, as a rule, notably different from the very regular oval which is so general further east, but the difference is one which escapes ordinary methods of comparative measurement; it is in the direction of being oblong or pentagonal rather than oval. In North Devon, the heads of the peasantry are large, and not unfrequently broad. With respect to stature, the west country has no distinctive character, though its subdivisions may have such; indeed, it is in this point that Devon and Cornwall differ most decidedly. The Cornishmen, as a rule, are taller and larger than the Devonians, the purer breed surpassing the more crossed one, which is a fact not consonant with a favourite doctrine on the subject. So great indeed is the difference, that while the Cornishmen overpass the average stature of Englishmen, the Devonians, taking the whole

county together, apparently fall below it, though, by reason of their compact and well-built frames, they are apt to weigh heavily in proportion to their inches. These statements may, I think, be depended on, being founded on upwards of five hundred observations, without reckoning those on the weight of miners, made by Dr. Barham of Truro.

Those who are acquainted with current theories on the subject, may not find it difficult to trace to a Semitic origin one of the handsomer of Cornish physical types, and to a Ligurian or Italian strain the features and aspect of many Devonians. Whether there be any truth in these ideas, I will not attempt to decide or to discuss. On the whole, forms, features, and complexions are somewhat softer in Devon, whether from crossing of blood or from a slight superiority in climate; and, accordingly, Cornwall is supposed to produce the finer men, and Devon the more beautiful women.

With respect to the colour of the eyes and hair, I have made about four thousand observations. As a rule, the hair grows darker as one proceeds further west; and, in Cornwall, this applies to the eyes also, though in a less degree. In some parts of Devon, that counterchanging of colours, which is regarded by some French anthropologists as an indication of the recent crossing of a blond and a dark race, is very observable, blue or light grey eyes accompanying very dark hair, and, less frequently, hazel eyes light brown hair. A large, grey or blueish-grey iris, in which the fibres present a markedly reticulated appearance, but the colour is otherwise very uniform, is very common in North Devon.

The neighbourhood of Bideford, as I have already mentioned, is inhabited by people who differ much from the general west-country type, in respect of colour at least. The skirts of Exmoor are inhabited chiefly by people who may be a remnant of the Gael, and who have grey eyes, with dark hair, bony angular frames, square foreheads, and sometimes prominent jaws. But to the west of them dwell these comparatively fair and soft-featured people, with brown hair, and of moderate stature, who occupy the shores of the estuaries of Taw and Torridge. West of them again, towards Hartland, the tall dark Cornish breed becomes predominant. This comparative fairness of the Bideford men can hardly be accidental, as nothing like it has been met with by me anywhere else to the west of the Parret. Out of fourteen places or districts in the west country in which I have observed the colours of the hair, in thirteen the figure by which I represent the prevalence of dark shades varies between forty-three and sixty-five; while in Bideford, the remaining one, it falls as low as twenty-nine, which is about what rules in the west-midland counties, where a pretty strong infusion of Saxon blood is generally recognised.

ANATOMICAL EXAMINATION OF A BUSHWOMAN BY PROFESSOR LUSCHKA, A. KOCH, AND E. GÖRTZ.*

THE Bushwoman Afandi, who during her tour through Germany became known to many naturalists and physicians, died in the summer of 1866, of a pleurisy, at Ulm. The body was immediately transferred to the anatomical theatre of Tübingen for examination. The language of this woman is said to have consisted of an almost uninterrupted succession of clicks and explosives.

The details are given in three inaugural dissertations by Professor Luschka's pupils,† and in an essay by Luschka on the external generative organs of this woman. Subjoined are the general physical characters.

Height, 4' 2" 3"; *weight*, 75 pounds 11 ounces; *colour*, light brown; *mammæ* not pendulous. The areola has a diameter of 1½", is irregular, with wrinkles more concentric than radiating; the nipple but little prominent.

Face.—The flatness of the nose, the width of the interocular space, and the projection of the cheekbones, form its most striking characters. The iris is of a blueish tint. The ear is well formed, and by no means of a simious shape, as described by Cuvier and Müller.

Skeleton.—The cranium is dolichocephalous; greatest length, 16.5 cent.; greatest breadth, 12.5; index = 70. The face is prognathous; its length is 10 cent.; breadth, 10.5 cent. The nose is flat, but the nasal bones are not coalescent; the cheekbones very prominent. The teeth are white, well preserved, and not deviating from the dentition of a European. With reference to the rest of the skeleton, it is remarked that the anomalies seen in several parts of the skeleton of the Hottentot Venus were not observed in that of Afandi.

The elbow fossæ were not perforated. The calcaneum had the negro or simian form; but the astragalus was distinguished by its elegant shape and the small convexity of the superior articular surface. The vertebral column, exclusive of the cervical portion, was much stretched, especially the lumbar region. The heads of the ribs, especially of the middle ribs, were unusually large. The pelvis has a round form, and thus agrees with the two exemplars described by

* Abridged from vol. iii of *Archiv für Anthropologie*, 1869.

† *Ueber das Becken eines Buschweibes*. Von C. Goertz. Tübingen: 1868. — *Ueber das Hirn, etc.* Von L. A. Koch. 1867. — *Ueber das Haar, etc.* Von A. Goette. 1867.

‡ *Monatsschrift für Geburtskunde*, vol. xxxii. 1868.

Müller. It quite resembles the pelvis of a Negress aged 37, delineated by M. J. Weber in his work on the forms of the pelvis in different races.*

Brain.—Weight of the fresh brain after removal of the membranes, 28 ounces; after remaining for a year in alcohol, 24 ounces 5 drachms. Measurements (*i. e.*, of the inner cranial capacity of a gypsum cast): greatest length, 15.5 cent.; breadth, 11.5 cent.; height, 11 cent. Proportion of weight of brain to that of the body = 1 : 43.29. (In an European woman aged 38, the proportion, according to Tiedemann, was 1 : 44.89; and of six other European women, there was only one (very thin) with a proportion 1 : 28.45 superior in this respect to the Bushwoman.) The author (Koch) gives no particulars touching the convolutions of the hemispheres, but refers the reader to Huschka's *Handbuch der Anatomie*. To judge from the drawing, the brain was by no means poor in convolutions.

Steatopyga.—Few indications are found in anatomical literature on the height of the fatty cushion, and especially the distance of its extreme point from the vertebral column. Barrow gives it in one case at 14.4 cent. In the Hottentot Venus, the height of the buttocks amounted to 16.2 cent. In the Afandi, the projection above the lower lumbar region is no more than 7 cent. The thickness of the steatopyga itself, after lying in alcohol about a year, amounts, in its thickest parts, to 4-4.5 cent.; in most places it is 3-3.5 cent.; and in the thinnest portions, only 2 cent. The fatty mass overlies the regio glutea and sacro-coccygea, and is continued on the regio coxalis; and the external parts of the upper thigh end gradually in a common panniculus. It is thickest in the region of the iliac crests and over the glutæi maximi, and thinnest at the lower border of the fundament, where corpulent individuals of the Caucasian race present a greater thickness of subcutaneous fat. Hence it results that not only is the quantity of accumulated fat greater, but that its distribution differs from that in the European; for in the latter the arch gradually increases from the iliac to the sulcus glutæus, whilst in the Hottentot it flattens downwards towards the posterior femoral surface. It is owing to this circumstance, and to the sudden transition at the iliac crest from the greatest thickness to the common panniculus thickness, that the steatopyga appears more striking and imposing than might be expected from the comparatively not very great difference in thickness. As regards the structure of the steatopyga, the author makes the following remarks. In the European, the muscles of the part are separated from the panniculus by the fascia glutæi, which shows itself above the glutæus medius in great strength, and

* *Lehre von den Ur- und Racenformen der Becken, etc.* Tab. xvii.

with a tendinous glitter, but is very thin over the maximus, and adherent to the fleshy fibres. In the Afandi, the strong fibrous stratum which covers the glutæus maximus consists of three different surface-spread fibres. Between this fibrous lamina and the dermis, the fatty tissue is interposed, which resembles not by any means a common panniculus adiposus, but much more that of the sole of the foot or of the mammary gland. There proceed, in fact, from the fibrous lamina, numerous processes, which coalesce with the stratum reticulare of the cutis, but have many connections with each other. This arrangement of connective tissue laminæ is not quite irregular, but presents, especially in the thickest parts, three superposed strata, which diminish in height as they approach the skin. This structure renders it, in the opinion of the author, alone possible that the fatty cushion retains, despite gravitation, its greatest arch upwards; and he therefore denominates the above described fibrous laminæ *ligamenta suspensoria steatopygæ*.

The *Hair* of the Bushwoman, compared with other hair-forms. The author (Goette) examines the hair of Europeans, Negroes, of the Bushwoman, of the common sheep and the Rambouilletback. As regards the hair of the Negro and that of the Bushwoman, he finds that of the Negro to consist of a non-woolly upper growth, whilst that of the latter consists only of a coarse woolly under-hair.

The External Generative Organs—The mons veneris very slightly arched, and not much deeper in colour than the rest of the body, has very few short hairs. The labia majora are without hairs, and reduced to such a minimum that they seem to be absent. The clitoris has a length of 26 millimeters. The labia minora lie, therefore, open (fœtal form), and form the equivalent of the rima pudendi. The nymphæ proceeding from the preputium clitoridis have a height (= distance of the attached border from the free edge) of 3.85 cent., and a length (*i. e.*, of the attached border) of 6 cent. Both nymphæ, laid together in the median line, form a nose-like prominence. Posteriorly and inferiorly, both nymphæ conjoin in the frenulum vulvæ.

THE NEGRO TRIBES OF THE UPPER NILE AND THE NJAMNJAMS, BY ANTINORI AND PIAGGIA.*

BOTH travellers proceeded from Chartum up the White Nile to the mouth of the Bahr-el-Gazal, and reached, by this river and by land,

* *Annals of the Florentine Geographical Society*, and Petermann, *Mittheilungen*. 1868.

the Dshiur Negroes. The chief, a well-built robustious man, about forty years old, of an ebony black, and perfectly naked, except a singular garment which hung over his shoulders down to his navel, came forth to meet his guests, grasped and spat into their hands as a sign of welcome. He even carried his favour so far as afterwards to spit into their faces. Both sexes of the Dshiur Negroes go about perfectly naked; the old women only cover their bodies with antelope-skins. The women wear ornaments in their ears, on the neck and the ankles. The married women wear a girdle about an inch in width, from which are pendant glass pearls and iron ornaments. Women enjoy great consideration. A Dshiur Negro very rarely beats his slave, much less his wife. They keep goats, as the tsetsefly torments the cattle. They cultivate several field-fruits, and forge iron. In the year 1863, Piaggia alone came to the Njamnjams, already visited by Petherik in 1858. The country is wooded and richly watered. Here live the rhinoceros, elephant, wild hog, several species of apes, and a great number of small rodents and bats. Piaggia says that he had seen some anthropoid apes—probably the *troglodytes calvus*, the niger, and perhaps the gorilla. A large mammal, called Aiti, seems to present an intermediate form between the ox and the kudu (*tragelaphus*). The Njamnjams had only immigrated into their present abode sixty years ago, from the south-west. The chiefs wear an apron of bark resembling a woven tissue; the common men wear an apron of animal skin. Most women go about naked; only towards the north they wear an apron of leaves. The chief inflicts the punishment, consisting in cutting off the ears or the fingers. The chief is also the executioner. He puts the head of the culprit into a noose, and, whilst strangling him, stamps upon the body. The houses are cuneiform. The husband lives alone; the women have separate huts. They have a council-house for public transactions. Their arms consist of arrows, lances, and sickle-shaped knives. After battles with neighbouring tribes, they eat the slain enemies, as witnessed by Piaggia himself.

Piaggia says nothing of the tails of this Negro tribe. The report must, therefore, have arisen, as already indicated by Tremaux, from the tails of the skins of animals, or, as some Egyptian physicians assert, from the circumstance that in some individuals the coccyx is not inwardly curved, but takes a straight direction.

The chief keeps a large harem; but the women are not watched. The family ties are very loose. The boys leave the paternal home when about seven or eight years old, and live in the council-house, which serves also as a general refuge. A man takes only one wife; if she prove sterile, he asks the chief for another. Women who have

borne children stand in high estimation. The females have luxurious hair, and devote a considerable portion of the day to arrange it. They practise tattooing, and perforate the nasal septum, the upper and the lower lip. They have soothsayers, who drive out diseases and make it rain. An oath is sacred to these Negroes. They open a vein in the arm, and suck each the running blood, when they conclude some convention. Their pottery shows some skill.

THE CHIEF RACES OF MANKIND.*

THE Australian occupies the lowest rank, and scarcely differs from the animal. Like the brute, the Australian lives on accidental food. His mind is so obtuse that he scarcely thinks of anything but of satisfying his animal instincts, such as hunger, thirst, and sexual propensities. We find but scanty traces of definite religious notions, of the worship of higher beings. His habitations are miserable.

The Papua occupies a higher rank; for he makes some provision for his necessities. He domesticates some animals, cultivates the land, although imperfectly. He builds his huts near the shore; and it is remarkable that his habitations closely resemble those of the lake dwellings in Europe. The Papua is cheerful; he finds pleasure in things, apart from appeasing his natural instincts. His superstition assumes a definite form; he carves idols of wood, and builds for them temples.

The Malayo-Polynesian exhibits a higher culture. We find here a family life. The tribes are governed by chiefs. There are laws sanctioned by custom and habit. He builds ships and navigates the open sea. The religious notions become more definite, and assume the form of tradition. Joy and grief are expressed in songs, and preserved in memory. The influence of the chiefs is not based solely on physical strength, but partly on oratory.

The Negro stands still higher. His habitations are massive and artful; he is an agriculturist. He builds cities, and lives in organised states. He is given to industry and trade. His mental emotions are not merely expressed in songs; but he is given to reflection, and composes proverbs and riddles.

* Extracted from the recently published third (Anthropological) part of the circumnavigation of the globe by the Austrian frigate *Novara*. (*Reise der Oesterreichischen Fregatte "Novara," um der Erde. Anthropologischer Theil. Dritte Abtheilung, Ethnographie. Von Dr. Friedrich Muller. Wien: 1868.*)

The American is generally a hunter or a fisherman, and would seem, in this respect, to stand below the Negro, and even beneath the Malayo-Polynesian. When, however, we consider that this condition is the consequence of the configuration of his country, and that, when the conditions are favourable, there is a great development of civilisation (as, for instance, in Mexico and Peru), then we cannot hesitate to place the American above the Negro. The architecture of the above-named civilised states excels anything the Negroes have effected in this respect ; so that some are of opinion that this culture is due to foreign influence.

Higher than the American stands the High Asiatic. Although most people of this race are nomads, who have made themselves a name by convulsing the world, still there are some states who have acquired a permanent name in the history of civilisation, such as Japan and China. These two states had, in fact, reached the highest stage of material culture long before the western civilisation.

The highest scale of the ideal development of humanity has been reached by the Mediterranean race. During the first period of its appearance on the stage, it stood not higher than China. With the appearance of the Semitics and Indo-Germans, free and ideal culture gradually overthrew all the opposing bars of space and time. By it alone may it be possible that man may become, as said in the Semitic tradition, an image of God.

Dr. F. Müller, it may be observed, is Professor of Oriental languages in the University of Vienna. He proceeds, therefore, entirely from a linguistic standpoint. As a philologist, he says that he tried to group the peoples, according to their language, which, with other manifestations of psychical life, is the chief index of the affinity of peoples, whilst the anthropological and ethnographical systems, founded on physical characters, are doubtful ; in short, he considers that the bodily form is more flexible compared to language. Ethnography, as a science, he contends, is nothing but that special branch of ethnography called linguistics.

FOREIGN ANTHROPOLOGICAL LITERATURE (1868-69), INCLUDING ARCHÆOLOGY, ETHNOGRAPHY, AND TRAVELS.

Das Beständige in den Menschen Racen, etc. Von Adolf Bastian.
Berlin : 1868. 8vo.

Beiträge zur Vergleichenden Psychologie, etc. Von Adolf Bastian.
Berlin : 1868. 8vo.

Ueber das Aussterben der Naturvölker. Von G. Gerland. Leipzig : 1868.

De la Race, et de sa part d'influence dans les diverses manifestations de l'activité des peuples. Par Leo van der Kindere. Bruxelles : 1868.

Entwurf eines Systems der Linguistischen Ethnography (Behm's Geographisches Jahrbuch, v. ii). Von Professor Friedrich Müller.

Reise der Oesterreichischen Fregatte "Novara." Dritte Abtheilung, Ethnographie. Von Friedrich Müller. Wien : 1868.

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Die Entstehung der Voelker. Von A. Strodle. Schaffhausen. 1868.

Das Hinsterben der Naturvölker in Berührung mit der Civilisation. Von Otto Ule. (Salon, v. iii.) Leipzig : 1869.

Die Ungarischen Ruthenen, etc. Von H. J. Biedermann. Innsbruck : 1868.

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Island und die Isländer. Von H. Helms. Leipzig : 1869.

Finnland und die Finnländer. Von H. Helms. Leipzig : 1868.

Die Eiswelt und der hohe Norden. Von H. Helms. Leipzig, Fritsch : 1869.

Die Wilden Menschen im Hurdesthale in Spanien. (Globus, v. xiv.)

Die Herkunft der Franken von Troja. Von J. Wormstale. Münster : 1869.

Der Deutsche Volksaberglaube der Gegenwart. Von Adolf Wuttke. Berlin : 1869.

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Ueber die Entstehung und den Stammbaum des Menschengeschlechtes. Von E. Haeckel. Berlin : 1868.

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Ueber die Anfänge der Organismen und die Urgeschichte des Menschen. Von Dr. B. Baltzer. Breslau : 1868.

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Ueber den gegenwärtigen Stand der Sprach-und Naturforschung in Bezug auf die Urgeschichte des Menschen. Von Robert Schideichel. Leipzig: 1868.

Die Hirnwindungen des Menschen, etc. Von A. Ecker. Braunschweig: 1869.

Ueber das Verhältniss der Bronzealters zur historischen Zeit bei den Völkern der Alterthums. Von Chr. Petersen. Hamburg: 1868.

Die Urbewohner und Alterthümer Deutschlands. Von F. Rieke. Nordhausen: 1868.

Die Pfahlbauten und Völkerschichten Ost-Europas. Von E. Rückert. Würzburg: 1869.

Die Hirnwindungen des Menschen nach eigenen Untersuchungen, etc. Von A. Ecker. Braunschweig: 1869. (Illustrated by woodcuts.)

Zur Entwickelungs Geschichte der Furchen und Windungen der Grosshirn-Hemisphären im Fötus des Menschen. Von A. Ecker. (Archiv für Anthropologie, v. iii, 1869.)

Ueber die Typische Anordnung der Furchen und Windungen auf den Grosshirn-Hemisphären des Menschen und der Affen. Von Professor Ad. Pansch. (Archiv für Anthropol., v. iii.)

Die Grosshirn Windungen des Menschen, etc. Neu untersucht von Th. Bischoff. München: 1868.

Sind das Stein-Bronze- und Eisenalter der Vorhistorischen Zeit nur die Entwicklungsphasen des Culturzustandes eines Volks, oder sind sie mit dem Auftreten verschiedener Völkerschaften verknüpft? Von Dr. v. Maak. (Archiv für Anthropol., v. iii.) A reply to the article of Dr. Lindenschmit on the same theme in a preceding number.

Gott, Welt, und Mensch, etc. Von Ed. Baltzer. Nordhausen: 1869.

Die Lehre von der Willensfreiheit des Menschen, etc. Von Dr. Wolanski. Münster: 1868.

Mikrokosmos, Der Leib, Die Seele, Das Leben. Versuch einer Anthropologie von Herm. Lotze. 2nd edit. Leipzig: 1869.

Antigüedades Prehistoricas de Andalucia, etc. Por Don Manuel de Gongora y Martinez. Madrid: 1868. (With 175 woodcuts and two chromolith. tables.)

Anthropological News.

DEATH OF THE BEST MAN IN ENGLAND.—We are pained to hear of the death of Dr. James Hunt, the founder of the London Anthropological Society and editor of the London *Anthropological Review*, beyond doubt the best, or, at all events, the most useful man in England, if not, indeed, in Europe. The man that leads all other men in knowledge essential to human well-being, that thus extends the bounds of human happiness, and best illustrates the wisdom and beneficence of the Almighty Creator to His creatures, is, *per se* and of necessity, the best man of his generation, and such a man was the late Dr. James Hunt of England. The science of humanity, the *facts* that underlie the human creation, that explain to human kind their nature and wants and natural relations to each other, which is the most essential of all possible human knowledge, and the basis and foundation of all that men need to know, or, indeed, can know, in this world, has until quite recently been a sealed book; and, while animals and plants and the very insect world have been studied with the utmost zeal, man—the centre and very sun of all these revolving orbs—has remained in the shadow, a marvel and a mystery to himself! A few years ago, the writer of this had prepared a work on the American Races, and asked the trustees of the Smithsonian Institution—founded to spread knowledge among men—to publish it at the same time that a Dr. Baird asked them to publish a work he had prepared on American Snakes, and they preferred the latter! This well illustrates the ignorance and foolishness of the learned world in regard to this subject, and a million of God's creatures have since been sacrificed on the altars of that blind and stupid folly. Dr. Hunt, in his own clear knowledge and brave enthusiasm, was doing more for humanity, for the welfare of mankind, and for the glory of God, than all the philosophers, humanitarians, philanthropists, statesmen, and, we may say, bishops and clergy of England together. He was teaching them what they are in *fact*—what God has made them, what their relations to other *species* of human kind, Mongols, Malays, Negroes, etc., and thus preparing them for the fulfilment of their duties to each other, and to the dependant races that were, or might be, in juxtaposition with them; and just to the extent that this knowledge is spread among men are the boundaries of human well-being extended, and the wisdom and glory and beneficence of the Almighty Creator of all made manifest. His death, at the early age of thirty-six, is a great loss to England, to Christendom, to all mankind; for, though there are many others labouring in the same great cause, especially in France and Germany, there was no European of this generation so clear and profound in the science of humanity as Dr. Hunt.—*New York Weekly Day-Book*, Nov. 6th, 1869.

CONGRESS OF POLISH PHYSICIANS AND NATURALISTS AT CRACOW.—It will, I have no doubt, be of interest to many of the readers of the *Anthropological Review* to have some account of the Congress of Polish Physicians and Naturalists, which took place at Cracow, in the month of September last. Anthro-

pology was far from being forgotten on the occasion. A letter from my accomplished and highly esteemed friend, Dr. J. Kopernicky, who took an active and zealous part in the proceedings, affords me the means of sending you what follows.

J. BARNARD DAVIS.

November 22nd, 1869.

"Our Congress was only a modest scientific *r union*, so to speak, the importance of which, sufficiently great for our country, was quite local. It was the first time we were permitted to unite together. We profited by it, in the end, by becoming acquainted with one another, by coming near one another, and by establishing mutual relations in the interest of the science that each cultivates. Our end was completely attained. For, although the great number of physicians and naturalists of the Polish provinces of the Russian domination were absent, the other provinces, Galicia, the Duchy of Posen, and Western Prussia, sent more than 250 members to the *r union*.

"Anthropology was not neglected in our Congress, although it had not obtained a special section; but a particular position was assigned to it in connection with anatomy and physiology. Unfortunately, the greater part of our anatomists and physiologists were travelling abroad, or could not come from Warsaw, so that Section II could not be constituted apart, and was mixed up with the others. Nevertheless, for the future, anthropology has its place reserved in our Congress.

"The First General Sitting was commenced by the reading of an essay which had much in common with our science. The President of the Congress, Mr. Joseph Majer, Professor of Physiology at the University of Cracow, read his memoir, very interesting for the Polish public, 'The Physical Characters of King Casimir the Great (1370)', from fugitive observations made upon the bones of this king, which were discovered at the commencement of July last, on the occasion of the restoration of his tomb. Professor Majer, who for the past twelve years has given special courses of lectures on Anthropology at the University of Cracow, has succeeded in reconstructing the image of the person of the great king, and has exhibited much talent and a profound knowledge of anthropological facts concerning the proportions of the human body.

"For my part, in the Third Sitting of the Section of Natural Sciences, I read a little memoir, under the title of 'Anatomico-Anthropological Observations upon a Negro who died at Bucharest.' My recital was listened to with much attention and favour. I specified the value of the anatomical characters proper to the Negro race, and the individual modifications of these characters, which, in the organism of my subject, were probably produced by the influence of climate and of the education he had received in Wallachia from his childhood. In fact, it is remarkable that in this individual the *black* production of pigment was considerably less than in negroes observed in their own country, or among those dying in Europe, who have arrived here at an adult age. All the vigour of this production was expended in my negro in blackening his external integuments. Their colour was No. 41 to No. 48 of the chromatic scale of the Soci t  d'Anthropologie of Paris, whilst all the cellular tissue, all the serous and mucous membranes, failed to present almost everywhere the least trace of pigmentation.* Another fact, not less interesting, observed in my negro was that, notwith-

* Dr. Kopernicky has not stated whether this was a negro of the West Coast. Nos. 41 and 48 are as dark as most Negroes.

standing the very small quantity of the encephalic mass (weight of the cerebrum, without membranes, 955 *grammes*; of the cerebellum, with the medulla oblongata and the pons Varolii, 150 *grammes*; of the entire encephala, 1105 *grammes*—i.e., nearly equal to 39 ounces avoirdupois), the surface of his brain, the richness of the circumvolutions, and their multiplicity, could not be distinguished, and were even a little more developed than upon the encephalon of a Wallachian woman, immediately compared together. I did not find any better explanation for this fact, than that Nature had given to my negro the most feeble quantity of encephalon, but that this organ was qualitatively developed in consequence of his education, which was superior to that destined for him in his native country. In speaking of the weight of the brain in Negroes, I naturally had occasion to make known the direct observations of Dr. Peacock, and the results of your researches by means of gauging skulls. My memoir will be published in the *Comptes Rendus* of the Congress, or in the *Annals* of the Scientific Society of Cracow.

“Our little Congress, which has satisfied me in many respects, has had, in my opinion, this principal merit, by which it has first given an example worthy of being followed elsewhere. I allude to the fact, that there was joined to it a Special Exposition of Scientific Objects, having relation to Medicine and the Natural Sciences. Our Exposition, in which eighty-four exhibitors took part, only occupied two pretty large halls, without including the garden, and the more voluminous objects exposed in the court. The Physicians visited with interest the anatomico-pathological preparations, a very curious series of teratological cases, anatomical preparations, normal and histological, the instruments and apparatuses of surgery and obstetrics, photographs of operations and of new operator proceedings, etc. Naturalists had there the only opportunity of learning at once all that was of most interest in the fauna, the flora, and the geology of many parts of our country, especially of Galicia. A beautiful and rich collection of the mosses and of the lichens of Tatra, and another of the spiders of Galicia, excited the admiration of *connoisseurs*. I should be very long in recounting to you all that was there of interest to the physician and the naturalist. I cannot, however, hide from you that anthropology was represented there by the objects which were exhibited by myself, and which were examined with curiosity. Besides my anatomical preparations, which obtained for me the honour of being recompensed by the first prize, I exhibited a series of different anthropological objects. The bust, the hand, and the foot of my negro, moulded in plaster; the skin, with the cicatrices, the epidermis, the suprarenal gland, and the scalp of his woolly head; a dozen natural crania, and others, moulded in plaster, of Rumanyos, Gipsies, Bulgarians, and of the Ghiliak; photographs of different skulls, and, among these, those of your *Aïnos*; a whole series of *orthographic* designs made by the proceeding of Lucae, as well as my own *craniographic* designs of the same skulls, exposed one beside the other, and the apparatuses themselves by which these sketches were executed; lastly, a series of grand photographs (from one-fifth to one-eighth the natural size). Rumanyo costumes and types decorated the walls of my exhibition; and my large ethnographical album, containing already about 400 examples, was exposed upon the table before my stall. This album especially was unceasingly besieged, and turned over by a multitude of the curious, with the best success, and with respect to the fruits pretty significantly. First of all, it drew to me a certain number of new photographs, of which I hasten to send you some. Among the number of

those I obtained, there were two veritable *bijoux*—these are photographs of the Samoiedes, taken at St. Petersburg. Subsequently, I received, on all hands, a number of promises to contribute to my collection by sending me photographs from the different provinces of Poland. But that which is of the most importance is that my album has happily excited the noble ambition of one of our best photographers at Cracow, Mr. Valerica Rzewuski, who, having received my information and my advice on the subject, has declared to me his intention, in the firmest manner, to occupy himself sincerely with the ethnographic photography of our country.

"Behold, then, with these materials, modest as they are, thanks to our Exposition solely, I flatter myself to have obtained two good results. First, to have made a little propaganda in favour of anthropology, by popularising it in a manner the easiest in the world; and, secondly, in having enlisted in our cause a photographer the most expert in our country, who will not fail to be followed by others."

ON THE MACANA OF THE ABORIGINES OF CENTRAL AMERICA.—One of the most common agricultural implements used by the Central American Indians, for the same purposes as the spade, is termed by them *macana*. It exactly resembles in appearance the palstave of the English antiquaries; but, unlike it, is affixed to the handle in a longitudinal manner, so that the axis of the long straight handle runs through the axis of the palstave at the point of insertion. It agrees with the English palstave precisely in the shape and proportions; but, unlike it, is not used as a weapon of war, but is held by the handle upright, and dibbled with like the gardener's spud. It is the only agricultural implement in general use amongst the Indians, who use it as a substitute both for the plough and for the spade. I was much struck, firstly, with the fact, that an implement so closely resembling an implement of war should be used for agricultural purposes; and, secondly, with the peculiarity of the name, which I had always associated with that of an implement of war. The Spanish definition of *macana* was certainly very different, as the Academy Dictionary (vol. iv, p. 443) has "Arma hecha de madera fuerte, del tamaño y figura de un alfange a que solian añadir un casco de pedernol, de la qual usaban los Indios antes que conociesesen, ni tuviessen hierro." The equivalent *ensis Indicus ligneus* is given. Herrera (*Hist. Ind.*, decad. 4, lib. i, cap. ii) has "Era esta gente belicosa; peleabru con tiraderas y *macanas*." Argens (*Annal.*, lib. i, cap. 69) says "Entregome una *macana*, rodela arco, y flechos; y aurique inexperto en tales armas entré en la batalla." Zedler (*Universal Lexikon*, vol. xix, p. 26) says "Macan, ein hartes holz, woraus die Indianer ihre pfeile verfertigen." It is, of course, scarcely necessary to remind the readers of the *Anthropological Review* that *μαχανή*, according to Dunbar, is an instrument or engine of war, from the obvious derivation of *μαχη*; and it was perhaps this which led the compiler of the Academy Dictionary to compare the object with an *alfange*, or cutlass, and to give the equivalent *ensis*. The word in Greek, however, has the accent on the last syllable; whereas, in Spanish, it is on the penultimate, a pronunciation which would rather infer its Spanish than its Indian origin. The word *μαχανή* is not found in most Greek Lexicons. Dunbar inserts it, it is true; but, if it is Greek at all, I think that it must be merely Byzantine Greek, derived *per reversio* from the Latin *machina*, which was undoubtedly originally, in the first place, derived from *μηχανή*. It has un-

doubtedly not been an Arabic word. My friend, Dr. Charnock, suggests that it takes its name from the wood from which it is made, the *Machanea guianensis*—the *Macanea* of Juss. Gen., p. 256." I cannot for a moment accept this theory, as it seems far more probable that the word should have been derived from the service (as e.g., "lance-wood") than that the tree should have given the name; and, in fact, it appears not to be made of wood at all in some districts (as e.g., Nicaragua), but of iron, so I must reject the botanical theory. In Martens's *Glossarios de diversas linguas e dialectos, que fallao os indios no imperio do Brasil*, 8vo., Erlangen, 1863, I cannot find any reference to the word *macan* or *macana*, and have great doubt whether it is a word from Guiana or Brazil. If some of the readers of the *Anthropological Review* can give a rational derivation of the word *macana*, I shall feel much obliged. I am myself unable to offer any theory which may be considered even probable; and I, therefore, must leave the matter in the hands of the philologists.

I may add another interesting circumstance, although it has no direct bearing upon the present subject. Yet, as it affords another instance of an implement, perhaps originally destined for war, being used for domestic purposes, I may perhaps recount it here. I was at a little house, called San Nicolas, in the Chontales Hills (the owner of which Señorita Justa Aragon, was perhaps the only pretty "mixed breed" girl I ever saw), and observed a celt, formed of green diorite, being used to crush maize on the rough quartzose sandstone, *piedra*, which served as a mill. The ordinary hand-stone used in the quern in Central America is composed of the same material as the lower stone. The form of the celt was long, and the traces of the original sharp edge at the end were distinctly visible. I never had seen a similar case, and offered the young lady a handsome price for it. But she replied that it had come down from Heaven in a thunderstorm, and had been a heirloom amongst her Indian ancestors for many years. It furthermore ensured the retention of perpetual virtue to the maiden who should grind maize with it. Under the circumstances, I was compelled to abandon the negotiation. I have not seen any stone of the same mineralogical consistence in any part of Nicaragua.

C. CARTER BLAKE.

YORKSHIRE TUMULI: GRAND DISCOVERIES NEAR BRIDLINGTON.—The Rev. Canon Greenwell, of Durham, and several other gentlemen, have spent a fortnight in the examination of two very large round tumuli on the Rudstone estate of Sir Henry Boynton, which have yielded results of a surprising nature, and of surpassing archaeological interest. Rudstone is the place where the only known megalithic monument in the East Riding is—the famous example of the Celtic "meenhir" (long stone), in the churchyard. From this unique relic the Saxons are supposed to have named the village (Rude Steen—Redstone). The barrows are in the immediate neighbourhood, and form a portion of a group of seven, in which others, when removed many years ago, many remains of burials and burial accompaniments were found. The barrows just opened were full of secondary burials, both burnt and unburnt, but in both cases the primary interments in the mounds had been destroyed by the insertion of the remarkable burials in deep graves, dug into the chalk rock, which formed the chief interest of the present openings. In the centre of both barrows cylindrical-shaped graves had been dug, destroying whatever else had been previously interred. In one tumulus an

opening of very large size, going 11ft. into the rock, had been made, and in it a double cist was formed of enormous stones of oolitic sandstone from Filey Brigg, 12 miles distant. Many of the stones forming this wonderful monument were of immense size, some weighing a ton or more, and marking the burials as of first importance. With the bodies, both burnt and unburnt, were found very grand specimens of pottery and stone implements, so remarkable that Canon Greenwell departed from his usual custom and permitted photographs to be made. The find of bodies, implements, weapons, ornaments, pottery, etc., is rich in the extreme. The first barrow was 66ft. in diameter, and yet 5ft. high, though greatly ploughed down, and formed of earth and chalk. At a point 4ft. S.W. of the centre, and at 4ft. above the natural surface, was the body of a woman, on the left side, contracted, the head to the N.W., left hand on the hip, right hand up to the face. Before the face was an urn of the "food vessel" type, completely covered on the exterior with zigzag markings by a pointed instrument. Lying before the chest was a small bronze awl or bodkin. At 6ft. N.E. of the centre were part of the skull and other bones of a man, destroyed by the plough. At and about the centre the mound was entirely made of earth in distinct conical layers. The section showed that through these, long after the mound had been built, a cylindrical excavation, equal in diameter to the immense grave in the solid chalk below, had been cut, and the excavation had been filled in with chalk and earth mixed, showing every line as distinct as possible, and allowing measurements of the greatest nicety. In the "filling in," at a point 3 ft. above the line of the natural surface, was a layer or cap of burnt earth and charcoal, five inches in thickness. Six inches below, and at the east side of the circle, was the body of a very young child, on the left side, contracted, the head E. by S.; and six inches below it was the body of a woman, on left side, contracted, the head E.N.E., the right hand across the chest just under the chin, left hand on knees. Before the chest was a flint knife, which had been newly made for the interment, and below the knife was a bronze drill, having a square centre, and both ends pointed. Behind the pelvis was a bronze awl and a flint flake, and close by a beautiful "drinking cup" of very unusual pattern, the outline presenting a waved contour, being alternating sinuses and prominences encircling the vessel. The cup was 8in. high, and a charming novelty. The burial of this woman had disturbed that of a man, whose head was to the S.E., and portions of the other bones were undisturbed. This burial had been contracted, and on the left side, and possibly the bronze awl might have belonged to it. Still descending, and at the line of the natural surface, was the body of a young woman, under 20 years, contracted on the left side, head to the E., and both hands in front of chest. Behind the skull was another drinking cup, 6½in. high, ornamented over the whole surface with horizontal, vertical, zigzag, and chevron lines, made by a peculiar implement of bone or wood, toothed, and the apices of the teeth squared off, thus making angular grooves in the clay. All the different patterns of ornamentation were by the same implement, and altogether unusual. The body was laid on a bed of charcoal, and under the feet was a flint knife. Conterminous with the upper cutting and its varied burials was the grave in the rock, which proved to be filled in carefully with mould only. The grave proved to be over 9ft. in diameter and 10½ft. deep. From this point the measurement is from the line of the natural ground, and at 4ft. deep were two large flags of oolitic sandstone, seaworn, standing on edge nearly against the south side. Lying horizontally beside them were two

large stones, 4ft. 8in. by 2ft., and 3ft. 6in. by 3ft. 10in., and on the top of these, hanging slightly over, was another, 2ft. by 1ft. 10in. On removing these it was found they lay on a fourth of equally large size, but all in the mould, and forming no part of the splendid cysts below. They seemed to have been spare blocks thrown heedlessly into the grave. Two feet below all this the top of a magnificent double cist was touched, the cist resting on the floor of chalk at the bottom of the immense grave. The cists formed but one structure, and had been erected, as was shown by the slabs overlapping, at the same time. They were N.N.W. by S.S.E. Cist No. 1 to the north was built of four large slabs on edge, with a cover weighing more than a ton, and flagged at the bottom with two lesser blocks. The inner dimensions of this grave were—length, 2ft. 10in.; width, 2ft.; depth, 1ft. 8in. In it, with the head to the south end, was the contracted body of a man of large size and of mature years, at whose feet was the body of an infant, and before the legs another infant still younger. In the S.E. corner was a beautiful drinking cup, quite perfect, 7in. high, covered externally with peculiar markings similar to that previously described. Before the face was an oblong piece of ironstone, calcined, but not a worked implement. Pieces, as if chipped off, were found at both ends of the cists and between the cists. There was a space of 10in. between the slabs dividing cist No. 1 from cist No. 2, the side stones overlapping; No. 2 cist internally was 3ft. 8in. by 2ft. 7in., and 1ft. 10in. deep. It was formed of two large side stones and overlapping end stones, a huge cover, and one flag at the bottom. In the centre was an oval heap of burnt bones, 19in. by 12in. In the corresponding corner to cist No. 1 was another and still more perfect and beautiful drinking cup, 9½in. high. This is a glorious specimen, covered with more varied patterns, formed in the same way as previously described, and showing all to be of a closely allied date. Both cups contained at the bottom some dark-coloured matter, remains of the burial contents, doubtless, the nature of which it remains for analysis to settle. Upon the lid of No. 2 cist, at the S. end, were two water-rolled whinstone pebbles, of kidney shape, having a “waist,” which had been in both implements rendered smaller by careful chipping, thus forming hammers. The sharp edges of the chipping on the waists had been carefully rubbed down, so as not to cut the withe by which the hammers had been held. The ends of the hammers showed slight signs of having been used. One hammer weighed 7lb. 14oz., the other 5lb. 6oz. What was their use? Did they fashion the flagstones forming the cist? All the slabs and covers of these remarkable cists were undoubtedly from Filey Brigg, the sea pitted surfaces being identical with the rocks of that part of the coast. There is another question. How did these primitive people transport the enormous blocks over such a country as the wolds for at least 12 miles? Just west of cist No. 2 were some bones of a full-grown person and a child—disturbed bodies. Between the side of cist No. 1 and the side of grave, on the east, was a second burnt body, and on the top of the bones was a similar hammer stone, of reniform shape, presenting more sign of use, but not “waisted” artificially. One foot to the S.S.E. of the burnt bones was another beautiful drinking cup, 7in. high, and ornamented similarly to the others before described. The finding of drinking cups with burnt interments is exceedingly rare. They are almost invariably accompaniments of inhumation. Bateman, it may be mentioned, assigned to the drinking cup a period anterior to the time of metal. This Canon Greenwell disproves now, having two instances of drinking cups associated with articles of bronze. Throughout the cutting above the

grave, and also in the grave itself, were found remains of disturbed bodies, several fragments of drinking cups, and a bone pin. These were, doubtless, associated with some of the bodies disturbed in making the secondary circular cutting, for which purpose an earlier tumulus had clearly been made use. In the materials of the barrow, thrown in promiscuously, were numerous animal bones, great quantities of flint chippings, five round "scrapers," and three saws of flint, the latter having teeth polished by use, a fine stone "pounder," used over the whole surface, as shown by the numerous facets, and potsherds of the usual British pottery. With all the bodies there was charcoal in greater or lesser quantity. The great central grave in the rock had the sides plastered with clay and rubbed smooth, and the part in the forced earth of the tumulus was also smoothed, but was not plastered with clay.

The second tumulus was 78ft. in diameter and 6ft. high, formed of chalk and earth, in layers. This mound had a trench round it (within the circumference) 4ft. wide at top, tapering to 2ft. at bottom, and 3ft. 6in. deep, in solid chalk. The inner diameter was 40ft. On the encircling line of the trench, at intervals of 12ft. to 16ft., occurred divisions of unexcavated chalk, not coming to the top, forming, in fact, a series of troughs round the barrow. Upon the natural surface of the ground was a stratum of hard tempered, cement-like soil, eight inches thick, so hard as almost to resist the pick. At 11ft. S.E. of the centre, and a foot above the natural surface, was the body of a woman, contracted on the right side, and head to N.E. by E., left arm to knees, right hand to the face. Behind the head was a bone pin. At 6ft. S.S.E. of the centre, and 16in. above natural surface, was the body of a man, on the left side, head to E.S.E. The body was in a circular hollow, cut through a layer of chalk, and resting on the tempered floor. At 30ft. E.S.E. of the centre was a body, on the right side, head to S.S.W. Being near the surface, this burial was destroyed greatly by driving sheep net stakes. At 16ft. S.E. and E., in a hollow 3ft. diameter and 4in. into natural ground, lined with wood slightly charred, was a very young child, head to S., on right side. Before the face was a nearly globular urn, 4in. high, ornamented by punctured impressions over the whole surface. At 7ft. S.E. by E., and 20in. above the natural surface, was the body of a young person, on the right side, head to S. by W., hands up to the face. At 4ft. south of the centre was a body, on the left side, with head to S.E. by S., lying on the natural surface, the right hand on the knees, the left up to the face. One foot above this body was another of a young person, lying on the left side, with head to W. On the E. side, and just within the circumference of a central circular grave (presently to be mentioned), and 6in. above the natural surface, was the body of a man, on the right side, head to W., right hand under the head, left up to the breast. There was a plank of willow on each side of the body, the planks being 3ft. 6in. long, and 1ft. 6in. apart. It was not a coffin, but merely a wooden protection on each side. In front of the head was a food vessel urn, with four unpierced ears, covered with impressions of the end of some implement. Close by the urn and skull was a most beautifully perfect and large barbed arrow point of flint, fresh as the day when made. The point was away from the head, and it is probable the shaft (decayed) was held in the right hand when interred. With the arrow was part of an ammonite, a sort of charm. The burial was that of a round-head (the brachy-cephali), with the lowest development of forehead, and the most debased skull conceivable for that of a human being. As with the first-described barrow, so in this, the original mound had been cut through to form the central grave

below, and, in filling in, bones of more than one body and portions of ribbed-pattern drinking cups were mingled with the earth, having been destroyed. At 1ft. 4in. E. of the grave, on the natural surface, was a body, on the right side, head to N.N.W., hands together in front of knees. At the centre was the grave in the chalk, 6½ft. E. and W., and 5½ft. N. and S., and 5ft. deep. Three feet six inches deep in the grave was a burnt body, and below it, on the bottom, a man on the left side, head S.E., left hand on the hip, right hand to the face. The burial was in a dished cavity, of which the chalk formed the bottom, and the sides were built of burnt earth and charcoal. Behind the hip, and just out of the "dish," was a very thin flint scraper. In the grave, and through nearly the whole mound, were remains of disturbed bodies, showing the tumulus to have been used again and again. Mixed with the material forming the hill were some animal bones, all broken for marrow, a very large quantity of chips, cores, etc., of flint, ten round flint scrapers (one most beautiful in work, and another smoothed by long use), four saws, two drills (one curved), three knives, and a chipped knife, or spear point, all of flint; three stone pounders, one small pierced hammer stone (used), and a beautiful jet armlet, 2½in. diameter. The skulls from the several finds, with the exception of two, which are decidedly brachy-cephalic, are all of a type partaking of the characteristic features of both races of Britons.

Excellent photographs have been obtained by Mr. Shores, of Bridlington. The proceedings aroused great interest in the district, and among the many visitors were Sir H. Boynton, Major and Mrs. Mussenden; Mr. R. Wyse, and Mr. H. S. Harland, Malton; Captain Barnes, Captain Beauvais, the Rev. Mr. Oxley, the Rev. P. and Mrs. Royston, Mr. Cape, and Mr. Tindall, Bridlington; Mr. Lovell, Weaverthorpe; Mr. Payne, Nottingham; Mr. Walmsley, Mr. and Mrs. Lowish, Mr. Harding, and Mr. Harding, jun.; Mrs. and the Misses Hordern, Burton Agnes; Mr. Butterfield, Mr. Milner, Kelham; Mr. Dagget, Mr. Powitt, and many others.

THE IRON AGE IN EGYPT.—The researches of the German Egyptologist, Lauth, have established that the iron age in Egypt belongs to a much more remote period than was hitherto supposed, on the faith of the Greek historian, Agatharchides. The word *ba*—the Egyptian name of iron—has been met with in documents dating about four thousand years before our era. Some mention it with the qualification, *ne peu*, i.e., celestial. These are, no doubt, the aerolites, whose frequent incandescent condition may have suggested to the ancients the idea of smelting minerals. Moreover, the aspect of the well wrought stones of the Pyramids should have led to the presumption that the Egyptians knew the use of iron. In Greece and Italy, the use of this metal only commenced about the seventeenth century B.C.; in Gaul, in the eighth century; and in the Scandinavian North only at the commencement of our era.—*Cosmos*, Aug. 1, 1868.

THE ORIGIN OF THE BERBERS.—Chr. Faidherbe reports on explorations of a necropolis of three thousand megalithic graves, near Roknia, in the province of Constantine (in the western slope of the Djebel Debagh, not far from the road to Jemmapes). The skulls fully proved that the Lybians, or Berbers, formed the original population of the atlas, and that they are allied neither to the Egyptians (as asserted by Pruner Bey), nor with other African races, nor with the Semites, but with the oldest inhabitants of Western Europe.—Petermann's *Mittheilungen*, 1869.

DR. ECKER contributes an interesting article to the last number of the German *Archiv für Anthropologie*, on the Development of the Convolutions of the Hemispheres.* Subjoined are some of the chief conclusions he arrived at on this subject. 1. Putting aside the fossa Sylvii and the fissura Hippocampi, which latter must not be placed in a category with the other fissures, it may be stated that the formation of the permanent fissures commences, as a rule, in the fifth month. Still there seems to be some considerable variation as to the time of their appearance. 2. The formation of the permanent fissures is preceded by that of the temporary fissures, which takes place in the third and fourth months. 3. The primary, deep, permanent fissures divide the surface of the hemispheres into a number of regions, which only, at a later period, by the appearance of secondary, less deep fissures, divide into gyri. 4. The first disposition of the fissures—relative to the later fissures and gyri—seems generally to be much more symmetrical. Asymmetry increases only with the appearance of the accessory fissures and the gyri. The greater symmetry of the fissures and gyri may, therefore, be considered as the expression of an arrest of development, as is found in the brain of an idiot. (Gratiolet, *Mem.*, etc.) That the fissures and gyri are, as Gratiolet asserts, sooner developed in the left hemisphere than on the right is by no means proved. 5. Between brains of different fetuses of the same age, even in twins, subsist great differences as regards the disposition of the first fissures, both as regards time and form. Consequently, a greater number of observations are requisite to separate what is relatively immutable in the species, and what is oscillating in the individual formation.

THE STONE AGE IN EGYPT.—A letter has been addressed by Messrs. Hamy and Lenormant to the Académie des Sciences, to prove that Egypt has had its stone age as well as Europe. Their letter is dated from Luxor, and they write to the Secretary of the Academy:—"We beg you to communicate to the members a discovery we have just made, in the course of a journey to Upper Egypt, undertaken under the auspices of the Khedive, which will not be devoid of interest to that learned body. The existence of an age of stone in Egypt has often been the subject of a controversy. The facts we are about to relate will, we think, give some information that will exercise an influence on the opinions entertained hitherto on that question. On the elevated plateau which divides the celebrated valley Biban-el-Molouk from the escarpments which overlook the Pharaonic edifices of Deir-el-Bahari, we have ascertained the presence of an enormous quantity of wrought flints, lying on the surface of the ground to the extent of upwards of a hundred square yards. These wrought flints, which are of the well known type designated arrow-heads, lance-heads, lanceolated axes, knives, scrapers, etc., evidently constitute the remains of an ancient manufactory, according to all probability pre-historic, and exactly resembling those known in France under the denomination of "factory of the neolithic period." MM. Ballard, Quatrefages, Wurtz, Jamin, Broca, Berthelot, with whom we had the good fortune to be travelling, were witnesses of the discovery, and authorise us to declare that they verify the origin of the specimens collected by us, and their similitude to those found in Europe. The best of them we propose to deposit in the Museum of St. Germain, where they can be inspected by connoisseurs in antiquarian subjects."—*Times*, Dec. 17, 1869.

* Zur Entwickelungs geschichte der Furchen in windungen der Grosshirn hemisphaeren. Von A. Ecker. *Archiv*. 1869.

PREHISTORIC MAN.—A somewhat remarkable discovery of human and animal remains has been communicated by Professor Capellini, of Bologna, to the *Gazetta dell' Emilia*. The Professor, on his return from Denmark, whither he had gone to be present at the International Pre-historic Congress, was rendered so zealous by what he had heard there, that he was induced to make many excursions in the neighbourhood of Spezzia. In the course of these excursions he visited many caverns, and in one of these he was successful in discovering traces of pre-historic man. This was in a grotto in the island of Palmeria, the access to which was difficult and dangerous. Here he caused excavations to be made; and the result was the discovery of numerous flint and stone implements, the workmanship of which showed they belonged to the earliest period of the stone age. Besides these wrought implements and various other objects brought into the cavern by its human occupants, he found a considerable quantity of bones of animals mingled with bones of human beings. The condition of these latter bones, he says, "would justify the inference that the grotto had been inhabited by anthropophagi, and that the Italians of that epoch were cannibals, like their contemporaries in Belgium, France, and Denmark. Among the human bones, I found those of women, and part of the jawbone of a child some seven or eight years of age. Some of these bones were entire; others were partially calcined. In the centre of the cave, it was possible to discern traces of a fire-place. Whoever has busied himself in prehistoric researches, whoever has read Spring's excellent work on the Chauvaux cavern in Belgium, and the writings of other authors on the subject of the caverns in France, will not hesitate to admit that the discoveries in the island of Palmeria prove that the Italians were, as I have said, man-eaters. For the present, it will be sufficient for me to direct the attention of naturalists to the subject. The Cyclopeans spoken of in the fable were probably these cannibals."

THE scientific world (says the *Berliner Post*, January 1869) has been gladdened by the unexpected return of Gustav Wallis, the naturalist, from South America, where, during the last fourteen years, he quite alone explored the almost unknown regions of the sources of the Marañon. An affection of the eyes, for which Mr. Wallis is now under the care of the celebrated oculist, Graefe, prevents, for the present, the publication of his papers. This, however, did not prevent him from delivering an address before the Geographical Association, in which he gave the outlines of his explorations, during which he observed, in districts never before trodden by a European foot, from seventy to eighty Indian tribes, the whole number of which he computes to approach five hundred. He expressed, touching these children of Nature, a much more favourable opinion than has been derived from legendary or even mendacious reports. Some of the tribes were in a condition of surprising culture, honest and hospitable, given to agriculture and industry, such as was not known of the Indians of present America. Amongst some few tribes, however, Wallis met with cases of anthropophagy, which has hitherto not generally been ascribed to Indians. The publication of the papers promise, apart from the interesting anthropological and ethnographical facts, to rectify our knowledge of the sources of the Amazon river, its fauna and flora.

CURIOUS DISCOVERY AT TENBY.—The Rev. G. N. Smith, rector of Gurfreston, near Tenby, in writing to a local paper, states:—"No longer back than the last low tides, the head and horns of the great extinct ox, or *bos primigenius*, have been dug out of the sand and mud, in which the roots of the old forest are so frequent and visible, and which forms a part, in a large sense of the word, of the Cantrav y Gwaelod, of Lowland Hundred, once attached to the shores, opposite Amroth Castle, about five miles from Tenby. A stag's horn was also found. Remains of the rhinoceros, the hippopotamus, the bear, the tiger, the hyena, and the stag, have been found in our coves in the mountain limestone at different periods, and all that we want is the next link that shall connect this *bos* with the cave remains. Could but one tooth or bone of either of the wild beasts named above, which are not indigenous, be picked up where the horns of the extinct ox were found, and in the same circumstances, the evidence of contemporaneousness would be very strong indeed."—*Standard*.

In the forest between Beschine and Moench-Motschelnitz (Silesia), after blasting an erratic block of enormous size, there was found beneath it, at a depth of six feet, a stone hammer of serpentine, of beautiful workmanship.—*Anzeiger für Kunde der Deut. Vors.*, No. 7, 1868.

Lisch found the remains of a foundry of the Bronze Period in the peat-moss of Holzendorff; namely, a perfect mould for bronze missiles.—*Ibid*.

Pile works were discovered in the Streitzig lake, near Neustettin, and near Sonnenberg (Ore Mountains). Four human skulls were also found in the latter place.—*Ibid*.

THE ANTHROPOLOGICAL REVIEW.

No. XXIX.

APRIL, 1870.

ON THE ACCLIMATISATION OF EUROPEANS IN THE UNITED STATES OF AMERICA.

By JAMES HUNT, Ph.D., F.S.A., F.A.S.L., etc.*

At the Meeting of the British Association at Manchester, in 1861, I had the honour to read a paper on the Acclimatisation of Man.† I now propose to bring again this important subject under the notice of the Association, by directing attention to the same question. I purpose to take, in the first place, the United States of America, and to consider the question of the cosmopolitanism of man with reference to the great American Republic. I am induced to commence with the United States, on account of the importance of the subject to the English nation in particular; and because it is a portion of the globe where the pernicious influences of a change of residence are so slow in their operation as to prove very deceptive to superficial observers. I propose to show that not only travellers, but even the Europeans in America, are beginning to discover that this physical metamorphosis, which has developed the so-called Yankee type, acts in such a manner as to render the perpetuation of the old stock of settlers a matter of grave doubt, and that as things are, and are likely to be, for some time to come, the immigrant population and their descendants are perpetually filling up the places of the former inhabitants, or primitive settlers and their offspring. This must inevitably be the result of the rapid decrease of the number of births of the old stock in proportion to their deaths; while, on the other hand, the new settlers are said to produce from two to three times as many births as the Americans. This is, at least, the case with one of the oldest

* This paper was prepared by the late Dr. Hunt for the meeting of the British Association at Exeter in 1869.

† Printed at length among the Reports in the *Transactions* of the Association for the year 1861.

and healthiest states of the Union, and we may rationally conclude that it will be the same in the new and younger states when the inhabitants shall have resided in them the same length of time. Since my last communication, attention has been directed to this question by several of our colleagues in Paris, as well as on the other side of the Atlantic.

The history of the rise and progress of Anthropological science has sufficiently indicated to us that the masses of mankind strongly object to be informed of anything relating to their past or future history which is not in accordance with their own wishes. We cannot, therefore, wonder that the Europeans settled in America have not discussed this question, which so nearly affects their future destiny, with that philosophical calmness we should desire; and that they dismiss, as altogether beyond the limits of possibility, such a question as the probability of the degeneracy of their physical condition, which may end in total extinction.

Such a result as the total extinction of the Anglo-Saxon race in America is, perhaps, impossible, for this reason—the improbability that the supply of immigrants from Europe will ever entirely cease. As long as that continues, so long will new blood be supplied to replenish the degenerate condition of the early American settlers, and so long will people—at least superficial observers—be blinded, or sceptical, as to whether the continuation of the race is due to a never ceasing supply of immigrants, or to the healthy reproductions of the old stock. Such a question would be finally solved were it possible to entirely separate the immigrants and their descendants from the old settlers. This has been done in the case of Massachusetts, and it fully shows that the American race is being replaced by foreign immigrants. How far this is the case with reference to the other States I can not at present tell, but I shall show in the sequel that, according to American statisticians, the reproductive power of the original stock is said to have decreased 10 per cent since the beginning of the century. The Americans, however, instead of looking for the true solution of this question, attribute it to other causes, and deny—or rather treat as nonsensical—such assertions as those which attribute it to a degenerate physical condition produced by the influence of an unfavourable climate and other allied influences. To this there are honourable exceptions; but, as a rule, the cosmopolitan power of man, and especially of the Anglo-Saxon race, is still one of the many popular delusions which are held as firmly in America as in Great Britain.

The question before us is a very large and a very difficult one. With respect to America it is rendered doubly complex by the animus

which has been shown against those who hold opinions such as those I have been obliged to adopt from the facts before us, and against those, especially, who venture to express such opinions; as well as, in the second place, by the scantiness of faithful and reliable statistical evidence. It is thus difficult to obtain either unbiassed opinions or pregnant scientific facts. We are consequently compelled either to leave this question undiscussed, or to use such facts and opinions as are available. The question, however, is far too important to leave undiscussed, for, as my late lamented colleague, Dr. Boudin, justly maintained, this problem is the most important in Anthropology, and on it depend all systems of colonisation, as well as recruiting for foreign stations. To this country especially it is of the greatest practical interest, and it is growing in importance day by day; no apology, therefore, need be offered for calling the attention of my colleagues to such facts as have come under my notice during the last eight years. I purpose commencing work with the United States of America, and shall endeavour to follow up the subject by other papers on different portions of the globe. First, then, as to the climatic conditions of this vast Republic.

The climate of the United States is remarkably inconstant and variable. It passes rapidly from the frosts of Norway to the scorching heat of Africa, and from the humidity of Holland to the drought of Castile. A change of 20 deg. or 25 deg. Fahr. in one day is not considered extraordinary—a phenomenon which is attributed to the fact that the passage from the heat of the tropics to the cold of the arctic regions is not obstructed by any considerable mountain chain, running from east to west. The north-west wind, sweeping over a vast frozen surface, acquires an intense degree of cold and dryness, which operates very injuriously on the human frame; whilst the south-east, blowing across the Atlantic, adds greatly to the insalubrity of the littoral regions with which it comes in contact. The south-west produces the same effects in the plains at the foot of the Alleghanies. The mountains, however, are more salubrious, as is proved by the blooming aspect of the young persons among those who inhabit them. With regard to the relative salubrity of the various States, it is well known that those inhabiting the lower country bordering on the Atlantic, and those situated on the banks of the Mississippi, Ohio, and Missouri, are less salubrious than those surrounding the Alleghanies, and those situated on the shores of the Pacific. On comparing the opposite sides of the Atlantic, we find the extremes of temperature, and especially that the winter's cold is more severe on the west. The mean temperature of the year is about 9 deg. Fahr. lower at Philadelphia than in corresponding latitudes on the coast of Europe. With such a

variable climate, it cannot be wondered at that that pestilent disease, the yellow fever, should make its ravages among the population of several southern States. Accordingly, we find that the countries situated on the Mississippi and Missouri, as well as some parts of Virginia, South Carolina, and Florida, present the highest rate of mortality.

Though situated upon nearly the same isothermal line as central Europe, the United States present many peculiarities in respect to climate. Emigrants from Europe, who arrive at New York or Boston, at first find no great difference between the American climate and that of the country from which they have just departed. They soon find out, however, that they are obliged to relinquish their former habits and adopt those of the Americans, which hitherto they have much criticised. These curious alterations are of two kinds: those that relate to ordinary life, and those which are observed in the exercise of certain trades.* Among the first is seen the astonishing facility with which the laundress can get her linen dry, even in the depth of winter, so much so that this task lasts but half the time it does in Europe. It is this that renders prevalent the custom, universal in America, of washing every week. On the other hand, a great inconvenience awaits the housekeeper who ventures to make bread sufficient to last for several weeks, as she has been accustomed to do in Europe. Although prepared in the same manner as in Europe, the bread is found to harden, and ceases to be eatable after some days. She accuses the quality of the flour, then that of the water, and ends by adopting the American custom of making bread at least every two days. But this dryness has its advantages. Mouldiness is much rarer there than with us; winter provisions are rarely spoiled from this cause. Cellars in particular, unless placed in damp and low situations, are excellent, and fruit and vegetables may be preserved for a much longer time and much more safely than with us.

The experience of artists and tradesmen is not less significant. Builders know no necessity of allowing their buildings to dry for a season before habitation. The mason is scarcely gone out before the tenant enters, and that too, without any fear of the rheumatic affections so commonly contracted by us in new buildings. Painters may apply much more rapidly a second coat of paint or varnish, without the quality of the work being at all affected. On the other hand, much greater care must be taken by cabinet-makers and musical-instrument makers in the choice of the wood they use. Wood which would be deemed in Europe sufficiently dry, cannot be admitted into

* See Professor Desor on this subject, in Boudin's *Géographie Médicale*, etc.

the workshops of cabinet-makers of Boston and New York. It would twist and crack in a very short time. Inlaid floors require extreme care ; very few are seen, even in the most opulent houses. American pianos are thus esteemed more than European ones, for although the latter are well suited to Europe they soon deteriorate in America. Joiners are obliged to make use of a much stronger glue than would suffice for their work in Europe. Tanners have remarked that skins dry much sooner than in Europe, this enables them to get more work done in a given time. In winter they find this difference is especially notable. It is well known how much trouble we have to preserve our natural history collections from damp, especially in new buildings ; we are obliged to make use of lime or other absorbents for the purpose. But in America nothing of the sort is required. In Boston there are such collections in apartments when the plasterer has just left, and one never dreams of using absorbents. On Mr. Desor making this remark to the inspector, telling him he feared those precious objects would spoil : " You forget," he answered, " that we are in New England and not in Europe."

All these phenomena are attributable to the dryness of the air. The quantity of rain which falls in the United States is not only not less but is greater than that which falls in Europe. Thus, there falls annually in Boston 38.19 inches ; Philadelphia, 45.00 inches ; St. Louis, 31.97 inches. While, in Europe, there falls in England 31.97 inches ; France, 25.00 inches ; Central Germany, 20.00 inches ; Hungary, 16.93 inches. This dryness is easily accounted for, notwithstanding the above apparent contradiction. The winds which predominate are those from the west. On our coasts the west winds are charged with humidity, having swept over the Atlantic ; but in the New England States, the west winds arrive after having swept over a vast continent, and consequently are less charged with humidity than in Europe.

The first attempt of the English to form settlements in America was on the coast of Virginia, where Sir Walter Raleigh founded a small colony. The climate proving unfavourable—the coast in that part was and is far from healthy—the settlers were reduced to such a state of misfortune that they abandoned this settlement and prevailed upon Sir Francis Drake, who called there on his return from the West Indies, to take them home. Since that time, however, the English have proved more successful ; but whether they have fully succeeded in establishing a permanent self-supporting colony even in North America is not yet, strange as it may appear, demonstrated.

The English colonies of America, numbering thirteen in all, were founded during the seventeenth century, with the exception of

Georgia, which was not founded till the eighteenth century—not exclusively by the English, Scotch, and Irish, for most other European states had a share in it, such as the French, Germans, Belgians, Swiss, Dutch, and Swedes. Delaware was founded by the Swedes, and New York by the Dutch, whilst both these nations helped to found the state of New Jersey. The Anglo-Saxon race, however, by far predominated, as is proved by their being under the protection of Great Britain. Death at first reaped a good harvest among those who cultivated the soil, but these evils gradually disappeared before the labours of man, and, aided by continued emigration from all the countries of Europe, the colonists continued to increase in numbers and strength till they compelled the mother country to acknowledge their independence. At and before this time it was extremely difficult to distinguish the influence of the climate on the colonies by reason of the incessant and increasing immigration. Nevertheless, we know that it is an indisputable fact that those resident in the southern states furnished relatively a less number of descendants than those of the more temperate localities, the climate of which approximates to that of their native country. Even at the present day, as I shall have occasion to show, there is no such thing as real acclimatisation of Europeans or of Americans themselves in the tropical parts of the United States.

At the time we are reviewing there had been no regular census taken. After the recognition of independence, however, the Americans turned their attention to this question, and in 1790 the first American census was made. By this time it will be seen that the American people had become sufficiently attached to the soil, and modified by the influence of climate, to be recognised as a distinct nation, and we are able to trace its progress as such. This was rendered more easy by the almost complete cessation of immigration, owing to the wars which ravaged Europe at the end of the last and at the beginning of the present century; and also to the struggle which took place between the United States and England in 1812. During this period, according to Blodges, Seybert, and other American statisticians, the population of the Union was left almost entirely to its own reproductive force, immigration having almost entirely ceased from the year 1790 to 1817. It is said that from 1790 to 1810 there were but 6,000 individuals furnished by immigration. However, too much reliance ought not to be placed in these figures; they are, at most, but conjectures, for nowhere in the United States was the registration of immigrants obligatory. However this may be, it is certain that from 1817 date the most abundant emigrations which Europe has since poured from all sides into the United States. Recently authors and statisticians have endeavoured to distinguish the increase of popula-

tion due to immigration, and that due solely to the excess of births over deaths of the old stock of Americans; all, however, are forced to start with suppositions, more or less hazardous, and consequently they arrive at very different results.

Mr. Tucker,* an eminent political economist of the United States, establishes his conjectures and calculations on the amount of duty paid to the custom-house in different parts of the United States and on the decennial census. The following extracts from his work are quoted and criticised by M. Carlier in an admirable memoir read before the Anthropological Society of Paris, and published in the *Memoirs of the Society* :†—

First census, 1790, whites	3,172,464
Increase of population from 1790 to 1800, 35·70 per cent., or 3·57 per annum	35·70
Approximate number of immigrants, 58,000, or 1·80 per cent.	1·80
Natural increase of the old stock	33·90 or 1,075,465
	<hr/> 4,247,929
From 1800 to 1810 : Increase of population, 36·20 per cent.	36·20
Population of Louisiana added to the Union, 1803 (51,000)	1·20
Immigration.....	1·90
	<hr/> 3·10
Natural increase.....	33·10 or 1,406,064
	<hr/> 5,653,993
Increase, 1810 to 1820, 34·30 per cent.....	34·30
132,400 immigrants	2·20
Natural increase	32·10
	<hr/> 1,814,932
	<hr/> 7,468,925
Increase, 1820 to 1830, 33·80 per cent.....	33·80
231,000 immigrants	2·90
Natural increase	30·90 or 2,307,897
	<hr/> 9,776,822
Increase, 1830 to 1840, 34·70	34·70
540,000 immigrants	5·10
Natural increase	29·60
	<hr/> 2,929,136
	<hr/> 12,705,958

* *Progress of the United States in Population and Wealth in Sixty Years, from 1790 to 1850.* New York, 1855.

† Tome iii, 1868, p. 37.

Brought forward.....	12,705,958
Increase, 1840 to 1850	26·09
Immigrants	1,840,227
200,000 inhabitants by the annexation of Texas, New Mexico, and California	200,000
	3·00
Natural increase.....	23·09
	<hr/> 2,040,227
Total number of primitive population, and increase caused by excess of births over deaths	14,746,185

Here ends the work of Mr. Tucker. If we wish to extend these statistics to the year 1860 by the aid of the last census, we are surprised to find ourselves face to face with results so dissimilar that we are constrained to ask where is the error? We see from the above that the productive power of the white population decreases year by year at a rapid rate. For instance, in 1790 the natural increase is 33·9; this decreases regularly in the four following periods as follows: 33·9, 33·1, 32·1, 30·9, 29·6, 23·09; whilst the last census, that of 1860, pretends to show that the increase of population has been thirty-eight per cent. for the ten years from 1850 to 1860—that is more considerable than any other periodical increase. According to M. Carlier, we must deduct for immigration, which is mixed up with this, 5 per cent.; but still there remains 33 per cent., which is equal to the most favourable period, and 10 per cent. more than that of the previous one. The author of the census says that this difference is not so large as it appears at first sight, for in the previous period, in 1849, the cholera had exceptionally affected the increase; but, as M. Carlier justly points out, this cause of mortality affected only one year in ten, and then carried off no more than 31,506 individuals from a population of nineteen millions and a-half.

In addition to this, we find that the number of emigrants to the United States given in the statistics of England and Germany, is much above that stated in the American documents. It follows from these facts, adds M. Carlier, that the census of 1860, though emanating from Government agents, is defective in many respects, especially with regard to immigration; and he believes that they attribute to the natural reproductive power a greater share in the increase of population than really belongs to it, and which should by rights be attributed to immigration. The agents of the United States Government take account only of ships having on board masses of immigrants, without reckoning those who arrive in isolated numbers, neglecting also those who arrive through Canada. The census of 1860 recognised this fact without, however, avowing the decisive influence it would have on the results of the census. Let us now follow M. Carlier in his extension of Mr. Tucker's figures to the year 1860.

White population, 1860	26,975,575
Compared with that of 1850	19,552,114
	<hr/>
Increase from 1850 to 1860	7,423,461
Deducting from this: 1. The proportional part which the immigrants, anterior to 1850, contributed to the production of the population; 2. The 2,707,624 immigrants who arrived from 1850 to 1860; and 3. The number of children of these immigrants born during this period. These would amount, at least, to one-half the increase.....	3,711,730
	<hr/>
Primitive stock in 1850.....	3,711,731
	<hr/>
Total primitive stock in 1860	14,746,185
	<hr/>
	18,457,916

Other American statisticians have endeavoured to calculate in a different manner the number of the descendants of immigrants, but, being forced to start with a hypothetical figure, they arrive at no really satisfactory results. Thus the Commissioners of Census in 1850 turned their attention to this.

They estimated the number of European immigrants to the United States, from 1790 to 1850, at	2,240,535
And supposed their probable descendants to amount to.....	2,063,881
	<hr/>
Total.....	4,304,416

M. Carlier, in extending this calculation to 1860, supposes that as the decimal increase of population in the United States varies from 23 to 33 per cent.,

The productive increase of immigrants would amount to 25 per cent. during these ten years	1,076,104
Which, added to the above	4,304,416
	<hr/>
Amounts to	5,380,520
This should be increased by the European immigration during this period	2,707,624
And the populations of Texas, New Mexico, and California	200,000
	<hr/>
	8,288,144
Finally, we must add to this the number of descendants of these immigrants and annexed states 25 per cent., but only reckoned on five years, as these were added at different times during ten years	363,453
	<hr/>
Thus, the European immigration and annexed states furnished, since 1790, a total number of	8,651,597
	<hr/>
Deducting this amount from the total number of inhabitants, according to the Census of 1860.....	26,975,575
	<hr/>
There remains for the primitive stock	18,323,978

That is to say, a total equal, within 100,000 individuals, to that furnished by Mr. Tucker's calculations, which were based on a different but equally hypothetical operation.

It is very curious to examine the rate of mortality in the United States; but, so little care has been taken, that it is next to impossible to arrive at exact, or even approximate results. In 1850 the census announced that the mean rate of mortality in all the union was 1 in 72 persons; and the relative number of deaths in several parts of the union sufficiently shows that no reliance can be placed in these figures. Thus in California we find that it is as low as 1 in 102, while in Oregon they reckon 1 in 283 inhabitants, which compared with 1 in 44, the mean rate in England and France, is something enormous. Louisiana, one of the most unhealthy states, furnished as high a rate as 1 in 44. But the most salubrious and most ancient state is that of Massachusetts, which may serve as a type. The mean mortality for 1849, 1850, 1851 was said to be 1 in 53.

As to the census of 1860, M. Carlier tells us that it indicates a less mortality than even the preceding one, namely, 1 in 79 for the whole union. The author of the census, comparing this result with the mean mortality of the different states of Europe, could not retain his surprise at the considerable difference which exists between 1 in 79, and 1 in 36 in Prussia, 1 in 42 in Belgium, and 1 in 44 in France and England. He gives as a reason the young blood continually diffused among the population by the arrival of immigrants who are generally in the prime of life, and the superior physical condition of the Americans; he acknowledges, moreover, that there must be great defects in the accounts of mortality taken in different places. With regard to the incessant arrival of immigrants, there is no doubt of the fact that such a quantity of new and young blood exercises an enormous influence on the rate of mortality of the Americans. This becomes the more manifest as the immigrants are invariably in the prime of life, and leave the sick, weak, and aged behind. Consequently, when compared with the mother country, there is a considerable difference in the number of deaths. But if it were possible to compare a number of young persons of the same age and position at home with a similar number who emigrated to America, we should, I have no doubt, find the balance greatly in favour of those at home; but when we have to include with the rest the weakly and aged persons belonging to the emigrant families we place the health of those at home in an unfavourable position. M. Carlier does not agree with the author of the census of 1860. "He forgets," he says, "no doubt that he said some pages above that the cholera, among other diseases, had attacked foreigners (immigrants) more than the natives. Strange contradictions,

not less strange than the proposition that it wished to defend! He does not remember, further, having signalised as the cause of great mortality the small-pox, which is now nearly inoffensive in Europe, thanks to preventive means very much neglected in the United States, where it finds many victims. "Everyone knows," he continues, "the little care that the Americans take of human life, and the great number of individuals who perish by railway and steamboat accidents, etc." He therefore considers that these figures ought to be much abated, and accordingly accepts as more correct the calculations of Mr. L. W. Meech, who, by the aid of ingenious calculations, established that the average rate of mortality in the United States since the beginning of the century has been 1 in 45 or 46, which approaches very nearly the mortality of England and France.

I may here observe that the registration of deaths in America is well known to be carried on in a very loose style. In fact, people are pretty much in the habit of doing as they please with respect to this important duty. In a discussion before the Anthropological Society of Paris,* M. Bertillon, in reply to an assertion that some States of the Union experienced a mortality of 5 per 1000, or one-half per cent., said: "What population can show a mortality so low? A population not only without children and old people, but of whom the individual age should be comprised between 12 and 14; for this is the only age, in England as in France, in which the mortality can descend so low as one-half per cent." These figures, he continues, published by the States, have for their *raison d'être* a fact well-known to him. "In America," he says, "the law does not enforce the registry of deaths. In many States it is only done when the relations have an interest in doing so; children, people without relations who take an interest in them, etc., are not registered. Hence this impossible number of 5 deaths per 1000 inhabitants; that is a fifth of the mortality of Europe!"

Accepting the figures of Mr. Meech as nearer the truth than those of the census of 1860, namely, that the rate of mortality of the United States amounts to 1 in 45 or 46 persons, M. Carlier asks: "But if the rate of mortality approximate to that of England, how is it that we find so great a disproportion between the two countries with respect to the excess of births over deaths? We have seen above that they attribute to the American stock of 1790 a progressive increase which, save during the period from 1840 to 1850, ranges from 29 to 33 per cent. for each of the other periods,—from 2·99 to 3·36 per cent. per annum. But never has the English census shown an increase of population for England and Wales equivalent to even half the average

* Bulletins of the Society, vol. v, p. 839.

found by Mr. Tucker! Is it because the English who remain on their native soil have lost the power of reproduction which their brothers of America had retained? No one would dare to sustain such a proposition; it is sufficient to have visited England to know the amplitude of their families, and whoever has lived in the New World can affirm that the American people have no advantage in this respect. The work of Mr. Tucker," he continues, "rests on an exaggerated basis of more than double what it should be." He is, therefore, of opinion that the primitive stock of Americans, with their increase, instead of being placed at 18,457,917, should be reduced by about 9,000,000; and that immigration, instead of being only eight millions and a-half, should be put down as eighteen millions and a-half. To prove these assertions, M. Carlier has recourse to another American statistician, M. Schade, an esteemed advocate of Washington. According to this gentleman, the excess of births over deaths in the United States is not more than 1·38 per cent. This, though greatly in excess of European countries, is much more credible than the calculations of Mr. Tucker. Compared with European countries, we find in the census of 1850, England, Wales, Scotland, and Ireland, 1·25 per cent.; 1850, Holland, 1·23 per cent.; 1849, Prussia, 1·17 per cent.; 1852, Saxony, 1·08 per cent. Supposing, then, that this increase is more correct than that of Mr. Tucker, M. Carlier calculates that the primitive American stock of 1790, amounting to 3,872,464 individuals, would have increased by its natural productive force in 1860 to 8,435,882. Deducting this from the whole white population of 1860, 26,975,575, we find that the number of immigrants and their descendants would amount in 1860 to 18,539,693.

Mr. Schade also attempted to calculate the relative increase of population in the four principal regions of the United States, but could arrive at no exact results. However, as far as his calculations go, they tend to show that in proportion as the climate is less favourable, the relative increase of population is proportionally less. Thus the Slave or Southern States increased less than the Free or Northern States. But these conjectures can have no real value as to the question of fecundity, as the population of America, independently of immigration, is continually on the move. Vermont and Connecticut, for instance, remain almost stationary, because their young population annually emigrates towards the west. And until this continual movement of population has subsided it will be difficult to get statistics sufficiently exact to be able to use them to support scientific theories.

Further statistics and calculations of M. Carlier tend to show that the Anglo-Saxon element of the United States population is not so

large as is generally imagined. Into these calculations I shall not now follow him, but I may say that his conclusion is "that we should attribute the civilisation established in this country (the United States) to the common efforts of all the races of Europe, among which the French blood has left its trace in a very creditable manner."

In speaking of the presumed causes of the decrease of reproduction in the United States, M. Carlier says that in looking over the scale of decennial increase of the population (as given by Mr. Tucker) the mind is struck by a circumstance altogether unexpected. The reproductive power is seen to relent and even decline in a notable manner. As we have seen above the natural increase descend from 33 per cent. in the period from 1800 to 1810, as low as 23.9 per cent. from 1840 to 1850. "In searching for the cause of this grave fact," he says "Mr. Tucker and some others with him pretend that the proportional increase cannot always follow the ascent of the population, and that the more the latter acquires density, the more the means of existence are restricted, and the less active will be the fecundity. This proposition is true in general; but the United States, where the sources of fortune superabound, have not yet arrived at this plethoric condition. The author (Mr. Tucker) invokes no great appreciable cause; he speaks neither of the influence of climate, or of the soil-clearing in the west, nor of any other striking circumstance which acts powerfully on the organism of the old and new inhabitants." Mr. Tucker attributes this decrease to the influence of luxury, which requires more resources to satisfy it than can be indulged in with large families. "These exigencies," continues M. Carlier, "retard marriages, they render people prudent, I may say even sordid, in the increase of their families. Mr. Tucker and the other economists have only discreetly touched on this delicate question, so much does it exact reserve when treated by an American pen and addressed to Americans. "As for myself, I am not at all governed by the same motive. . . . One of the causes which contribute to the decrease of reproduction in the United States is *the abortion prevalent in all classes*. I have found the proof of this," he continues, "in well-informed journals in all parts of the American Union, especially in medical publications which are an excellent source of information. The populations considered as the most religious, such as those of the New England States, the country of Puritanism, and Pennsylvania, the cradle of *quakerism*, are themselves denounced by the semi-official organs, as infected with this social vice."*

* In support of this assertion, he quotes at some length a discourse delivered by Professor H. L. Hodge, on "Criminal Abortion," Philadelphia, 1854. See same title by Dr. H. Storer of Boston, Philadelphia, 1860; and his book *Why Not?* See also *Medical Times and Gazette*, 1860, vol. ii, p. 479.

This gloomy picture of transatlantic morality is confirmed by M. Ambroise Jardien, who, after comparing the criminal state of France with that of New York, comes to the conclusion that crimes of this nature which are committed in this town surpass by far those which are committed in France, other things being equal.* "Shall I add," continues M. Carlier, "that in France this crime is only resorted to in order to conceal a fault, whilst in the United States it has invaded the married state with the complicity of the husband? This state of things, so different from that practised by the founders of the colonies, who gloried in raising large families, may account, in part at least, for the signal decrease in the natural production of the population, without the cause of acclimatisation being at all injured by it."

I am much inclined to doubt this conclusion. In my opinion the relative proportion of crimes of the above nature, were it possible to fathom every case both at home and in America, would not be found so greatly against the United States as is imagined by Mr. Carlier. It may possibly not be kept so inviolably secret on the opposite side of the Atlantic as in this and the European countries, but I think if the lower classes were compared in this respect, we should find no material difference. As to the higher classes in America, it should be remembered that, as that term is usually used, the higher classes of the United States correspond more to our middle classes. I am aware that this is an assertion to which American pride cannot assent, but it is nevertheless a fact. No one on this side of the Atlantic will assert that American civilisation is an offspring of other than European lower and middle classes, as is proved by the proverbial bluntness of even well-educated Yankees male and female. Comparing, then, all shades of American society with the European lower and middle classes, we should probably not be struck with the difference in the amount of crime of the above kind as at first sight appears. Nor on the imperfect basis that American statisticians are compelled to start from, can we say exactly what are the effects of climate and allied influences on this important decrease of reproduction, but I am strongly of opinion that it may be with more justice attributed to this cause than to that given by M. Carlier.

In France, whether through abortion or otherwise, we see that the number of children is voluntarily limited, and that it is not without reason. M. Carlier however seemed to ignore this when he attributed a greater ratio to American families.

Something of this kind has been noticed by Mr. Hepworth Dixon in his talented work on *New America*. According to him, there is a mysterious conspiracy among the ladies of fashion in America, the

* *Annales d'Hygiène Publique et de Médecine Légale*, 2e série, t. v, p. 113.

end of which would be that there would be no more "baby shows" in that country. In pious Boston and Philadelphia, no less than in wicked New Orleans and New York, this objection to become a mother in Israel is, he says, one of those radical facts which must be admitted. The rapid diminution of native-born persons being recorded in many public acts. America, he was told, is wasting for the want of mothers. The tale which seems so sadly written on the floor of every room you enter is also told at large in the census returns. The only States in which there is a healthy rate of increase are those wild countries peopled by new settlers, Oregon, Iowa, Minnesota, Mississippi. Strangest of all, he says, is the sad example set to the rest by Massachusetts, that religious centre of New England, the intellectual light of the States. In Massachusetts young women marry, but seldom have children. The registration of marriages shows a balance in favour of the natives, but the births run quite in favour of the foreigners. Power, which lies with the majority, is rapidly passing over to the Irish poor. In thirty or forty years these foreigners and their descendants will be the majority of men in Massachusetts. Such is the testimony of Mr. Dixon. I find it is fully borne out by facts. It is said, that the deaths even exceed the births of the old American stock in Massachusetts, and that the equilibrium is only maintained by the births of the immigrant population. Seew hat figures are produced by Dr. Allen of Lowell on investigating the changes of population of Massachusetts, of which state, he finds, says the *Springfield Republican*,* that in thirty or forty years, the native-born will be in a minority. His figures show, not merely that the foreign population of the State increases more rapidly than the native, but that in fact the native population is diminishing year by year, and the increase is altogether foreign. In 1864 the births in the state were 30,449, and the deaths, 28,723; in 1865, the births 30,249, deaths 26,152. The births exceeded the deaths in 1864 by only 1726, and in 1865 by 4,097. But the foreign population have from two to three times as many births as the American, and it follows that the American deaths actually exceed the births. Is the old Puritan stock losing its vitality and running out? The town records show that in the first generation of settlers the families averaged from eight to ten children; in the next three generations seven to eight; the fifth about five; and in the sixth less than three. The present is less than this. The old physicians all notice this falling off, and it is remarkable that it is quite as large in the country as in the city. Does it come from our more artificial and unnatural life, producing a

* See *Medical Times and Gazette*, Feb. 9, 1869.

degenerate physical condition of women, or from a settled purpose with the married to have but few children?"

These are certainly important questions and may be open to discussion, but this much is certain—that in Massachusetts, that so-called moral and intellectual centre of the United States, the race of settlers is undergoing a gradual, one might almost say rapid, decay. The first generation averaged eight or nine children per family, the next three, from seven to eight; the fifth about five; the sixth less than three; the present less than this! The deaths exceed the births! The power is passing into the hands of new immigrants.

Now as to the causes of this degeneracy. In my opinion an exaggerated importance has been attached to the crime of abortion, likewise a different construction may be put on the foregoing assertions. If an English woman or her descendants have different desires in this way in America after residing there some years, from what she would have had if in England, there must be some cause for it. Now physical degeneracy would account for it were it proved to exist, and that it does exist I shall produce some facts to prove. Americans are tall and thin, their army statistics prove this. It is truly surprising to find the enormous number of tall soldiers the Americans have when compared with English and especially French. Their glandular system is but scantily developed, and this is more marked in women than in men. The women are subject to serious perturbations in the menstrual function. The facts, which I know of no author of any note, but M. Carlier (who does not discuss it but dismisses it as improbable), to dispute, abundantly account for this degeneracy, this smallness of families, this determination not to have more children than they can provide for, which is in fact, in nine cases out of ten, *not in their power*. It is an old common-place to produce the story of the fox and grapes, but it applies with extra force here. That American women cease breeding early, and are altogether too spare and slightly built to perpetuate their offspring, I shall contend in the sequel, and also that it is the opinion of many of the Anglo-Americans themselves that they will have no descendants in one hundred years.

I consider, then, that the inability of perpetuating their species will be fully proved with relation to Massachusetts, by the figures I have produced above and the facts relating to the degeneracy of women which I shall relate in the sequel. But as to America in general it is difficult to form any correct idea at present. The new states, composed chiefly of emigrants from Europe, of course do not yet offer the same phenomena, and until European and other emigration shall cease, and until the Americans have become more accustomed to re-

main attached to their native states and have given up the continual shifting of situation which is going on at this moment, as it always has been, in the states ; and I may also add, until the Americans in the new states see fit to modify slightly their "free institutions" by enforcing a strict registry of births and deaths, we shall be only uselessly attempting to form scientific theories as to this great and important question of American acclimatisation. Meanwhile it may not be altogether without value that we should inquire into the facts at hand, and also learn what are the opinions of eminent men and keen observers on this point.

I may, however, here remark, that there seems to be some prospect of a decrease of emigration across the Atlantic, if we may judge from English and American records of emigration. It is said that the emigration from Europe into New York in 1868 fell short by 30,000 or twelve per cent. of that of 1867. It is further said that as regards Ireland, at least, this source is "beginning to run dry." Our own records show a difference of 10,000 or twelve per cent. between the emigration of 1867 and 1866. This continued to be the case during the first three months of last year, to which period alone we have returns. If this foreboding should turn out to be true, and should the supply from South-Western Germany also cease (as there are some signs of its doing) we may possibly have a more favourable opportunity of watching the welfare of our brethren across the Atlantic. One of the earliest authors that have come under my notice who has ventured to write on this subject in Kalm.* He observes that the Europeans in North America arrive earlier at the age of puberty, but sooner grow old and die than in their native country. "It is nothing uncommon," he says, "to find little children answer questions put to them with astonishing readiness and vivacity, and yet not attain the age of Europeans. Eighty or ninety years are seldom reached by one born in America of European parents, though the aborigines frequently live much longer ; and the natives of Europe commonly live much longer in America than such of their children as are born in that country. The women soon cease child-bearing, some as early as the age of thirty : and it is generally observed, that the offspring of the European colonists lose their teeth soon and prematurely, while the Americans retain their teeth white and sound to the end of their lives." It will be seen how remarkably these words agree with those uttered by later authors, to which we now proceed. So remarkable is this coincidence, that extracts from various authors, which I intended to have quoted in full, I have considerably abbreviated.

* Göttingen Collection of Travels, vols. x and xi.

As is well known, and often quoted, Dr. Robert Knox, many years ago, gave us to understand that he thought to have found already some signs of physical degradation amongst the Anglo-Americans; these modifications appeared to him to prove that the Americans were in a state of decay; that they would soon become less and less fruitful; and that the soil of North America would be again in the hands, sooner or later, of the autochthones, that is to say the red skins; provided, of course, that the supply of immigrants were cut off. This opinion—a very strange one it appeared to men at that time—has received the partial assent of an eminent American anthropologist, Dr. Nott.* “Though I am not disposed,” he says, “to go to his (Dr. Knox’s) extremes, I do not believe that even our New England States (probably the most healthy of the Union) are so well adapted to those races as the temperate zone of Europe, from which history derives them.” The Germanic races, he adds, in the southern States, “are, in general, a squalid looking people.” As a reason for this “squalidness,” Dr. Nott is of opinion that it is because they sleep between two feather beds, and otherwise are in the habit of violating the laws of health; but, it is presumed, these formerly robust inhabitants lived in the same manner when at home in Germany—in fact, Dr. Nott tells us that they do; can we then attribute this squalid, unhealthy aspect solely to their unhealthy habits? Certainly not. Would it not be a more satisfactory reason to attribute this decline of health to unfavourable media.

Dr. Nott has collected valuable evidence on the question of acclimatisation in the Southern States of the Union. “The fact is so glaring,” he continues, “and so universally admitted, that I am really at a loss how to select evidence to show that there is no *acclimation* against the endemic fevers of our rural district. Is it not the constant theme of the population of the South, how they can preserve health? and do not all prudent persons who can afford to do so, remove in the summer to some salubrious locality, in the pure lands or the mountains? Those of the tenth generation are just as solicitous on the subject as those of the first. Books written at the North, talk much about acclimation at the South, but here we never hear it alluded to *out of the yellow fever cities*. On the contrary, we know that those who live from generation to generation in malarial districts become thoroughly poisoned, and exhibit the thousand Protean forms of disease which spring from this insidious poison.”

He had been, he tells us, examining physician to several life-insurance companies. One of the questions asked was: “Is the party acclimated?” “If the subject,” says Dr. Nott, “lives in one of the Southern seaports where yellow fever prevails, and has been born and

* *Indigenous Races of the Earth.*

reared there, or has had an attack of yellow fever, I answer, 'Yes.' If, on the other hand, he lives in the country, I answer, 'No'; because there is *no acclimation against intermittent and bilious fever, and other marsh diseases.*" The italics are his own, and show how thoroughly in earnest the learned Doctor writes.

Nor is this all. Dr. Nott considered this question as far too important to rest on the evidence of one individual; he accordingly obtained the opinion of several of his professional friends. "All the answers received," he says, "confirm fully my assertion that the Anglo-Saxon race can never be acclimated against marsh malaria." The first letter he publishes is from Dr. Dickson, the distinguished Professor of Practice in the Charleston Medical College. His conclusion is that "The Anglo-Saxon race can never become acclimated against the impression of intermittent and bilious fevers, 'periodical,' or 'malarious fevers.' On the contrary, the people living in our low country grow more liable to attack year after year, and generation after generation." The second letter is from Dr. Wm. Boling of Montgomery, Alabama, "who is well known," says Dr. Nott, "as one of our best medical writers." "Judging from my own observation," he says, "I am inclined to believe that there is no such thing as acclimation to miasmatic localities; in other words, that neither residence in miasmatic locality, nor an attack, nor even repeated attacks, of any of the various shades or forms of miasmatic fevers, confer any power of resistance to what we understand by the miasmatic poison—not regarding yellow fever, however, as belonging to this class of disease. On the contrary, one attack, it seems to me, instead of affording an immunity from, rather increases the tendency or predisposition to another. It would be no difficult matter, I think, to obtain histories of cases of persons born, and continuing to live in miasmatic localities, who have been subject to repeated attacks of miasmatic fevers, occasionally during the entire course of their lives—say from a few days after birth to a moderate old age—"from the cradle to the grave'." Another practical observer, Dr. Samuel Forry, in his valuable work on the climate of the United States, has fully investigated the influence of the Southern climates on the white population; he says: "In these localities, as is often observed in the tide water region of our Southern States, the human frame is weakly constituted, or imperfectly developed: the mortality among children is very great, and the mean duration of life is comparatively short. Along the frontiers of Florida and the Southern borders of Georgia, as witnessed by the author, as well as in the low lands of the Southern States generally, may be seen deplorable examples of the physical, and perhaps mental, deterioration induced by endemic influences. In earliest infancy, the

complexion becomes sallow, and the eye assumes a bilious tint; advancing towards the years of maturity, the growth is arrested, the limbs become attenuated, the viscera engorged, etc."

That all parts of the United States are not equally salubrious, and that the Southern States are those which are the most inimical to the health of Europeans, may be gathered from the statistics of the United States army. From 1829 to 1838, inclusive, the United States army numbered, in the northern provinces, 32,242 men; who gave 281 deaths; while in the Southern States, in an army of only 24,978, there were 823 deaths. That is, in the north, 18 in 1000 men, and in the south 49 in 1000.

During this same period, the following table shows the diseases for which the men were admitted into hospital, and also the number of deaths caused by these diseases:—

DISEASES.	NORTHERN DIVISION.		SOUTHERN DIVISION.	
	Admissions to hospitals.	Deaths.	Admissions to hospitals.	Deaths.
Intermittent fevers	3187	1	14,094	13
Remittent	587	12	4,196	145
Synocha	825	2	718	11
Typhus	54	8	110	24
Catarrh	9,538	1	7,471	4
Pneumonia	610	8	900	42
Pleurisy	652	1	1,060	6
Phthisis	152	46	257	116
Hæmoptysis	83	1	84	2
Dysentery	—	4	—	38
Diarrhœa	5,981	5	13,135	55
Gastro-enteritis	289	1	633	26
Colic and cholera	3,221	2	3,282	7
Epidemic cholera	302	103	384	88
Hepatitis	98	3	166	4
Meningitis	18	3	31	5
Apoplexy	6	4	25	10
Epilepsy	166	5	188	9
Delirium tremens	102	3	306	39
Drunkenness	1,370	5	2,616	58
Nyctalopy	18	—	791	—
Rheumatism	3,412	—	2,845	1
Gonorrhœa	971	—	929	—
Syphilis	462	1	584	—
Dropsy	50	4	206	19
Atrophy and chronic visceral lesions ...	—	9	—	16
Accidents	—	35	—	50
Sudden deaths	—	3	—	7
Other diseases	—	11	—	28
Total	32,154	281	54,411	823

It will be seen, from the above table, that most of the additional diseases of the South are due to those connected with the climate.

Intermittent and remittent fevers, diarrhœa, and cholera, all show a marked preponderance in the South.

In a recent number of *The Radical*,* we hear a cry from New England on the score of health. New England, says *The Radical*, is "notoriously and needlessly unhealthy. Take almost any parish you please, and you will find a quarter of it, more or less, permanent invalids, and more than half with some trouble of body. In stomach diseases it is notorious that we beat the world. France, England, Germany, our rivals in many other things, both virtues and vices, cannot rival us in dyspepsia. It makes our bad pre-eminence: the stomach is our devil." But what is the cause of this terrible fact? The writer answers food. Not that this is the entire explanation; but it is, he says, at least the great one. "Now, a great many," continues the writer, "are ready to assign other causes. They say our dry climate, our nervous life, the rapid changes from class to class, account for the fact. But hardly. Sweden has an exciting climate, but not our sickness; France leads an excitable life, but is not an invalid; England does the hard work that we do, is as busy with business, but John Bull is calm and fat; Germany is as busy with her brain, but the German student is strong. There must, therefore, be some especial reason, and we have given it—food." But the writer might have added that John Bull equals him, and excels him, in food; this reason, therefore, does not satisfactorily answer for a phenomenon which, in the writer's words, "shows itself in a community whereof half are diseased." But, further, such reasons as assigned above are totally irrelevant. Sweden has certainly an exciting climate; France leads an excitable life; John Bull works hard. But John Bull cannot with impunity work as hard in foreign climes; the French are lively in their native land only; Sweden contains inhabitants who are in every way suited to the surrounding media; but the Yankees are invaders, who conquered, and have driven before them, the autochthones of the land they inhabit.

But to return. It has been urged against the degeneracy of the Americans, that they produce more tall men than do the European nations. There can be no doubt of the fact; but is not the excessive development of the osseous system one of the chief traits of degeneracy noticed by writers on this subject? Dr. Hammond† undertakes to show that in the United States army there are a very considerable number of tall soldiers more than in either the English or French armies. The following table is given to show the comparative height of British and French soldiers in proportion to a thousand. It must

* Reprinted in *The Dietetic Reformer*, July 1869.

† *A Treatise on Hygiene*. Philadelphia: 1863.

be recollected that the British Army Regulations exclude from the service all persons under 5 feet 5 inches, which accounts for the absence of soldiers under that stature.

HEIGHT.	BRITISH.	FRENCH.
5 ft. 1 in.....	—	62
5 2	—	156
5 3	—	187
5 4	—	178
5 5	4	152
5 6	114	107
5 7	180	69
5 8	252	49
5 9	184	22
5 10	128	9
5 11	73	5
6 0	40	2
6 1	15	1
6 2	7	—
6 3	1	—
6 4	1	1
6 5	1	—

Compared with the above table, Dr. Hammond prepares the following, which shows the great height of the American soldiers. It is calculated on 1,800 men—100 from each state—taken in the order that they are entered in the Adjutant-General's office.

STATE.	Mean height.	Six feet and over.	Greatest height.
Indiana.....	5-7604	18	Ft. 1n. 6 4½
Kentucky.....	5-7729	18	6 3½
Ohio.....	5-7537	15	6 3½
Tennessee.....	5-7779	18	6 3
Maine.....	5-7314	11	6 2
Vermont and New Hampshire.....	5-6951	6	6 1
Massachusetts and Connecticut.....	5 6821	5	6 3
North Carolina.....	5-7814	24	6 3½
Georgia.....	5-8272	30	6 6½
South Carolina.....	5-7729	15	6 4½
Alabama.....	5 7647	17	6 4
Virginia.....	5-7488	15	6 2
New York.....	5-6505	4	6 1½
Pennsylvania.....	5-6756	5	6 1
New Jersey and Delaware.....	5-6509	6	6 1
Maryland.....	5-7130	9	6 2
Illinois.....	5-7696	17	6 3
Missouri.....	5-7162	8	6 1½

“The great stature of the American when compared with that of the English and French soldiers,” says Dr. Hammond, “is made suffi-

ciently apparent from the foregoing tables. Of one thousand men in the British army, there were but sixty-five of six feet and over, and in the French army but four ; while of eighteen hundred recruits for the United States army, two hundred and forty-one were six feet and over in height, or somewhat more than one hundred and thirty-three per one thousand." Indeed, I may add, no more conclusive proof could be wanted. Dr. Hammond continues : "No one who has seen the French army can have failed to notice the low stature of the men who compose it. But, at the same time," he adds, "he will, doubtless, have remarked the fact that nearly all of them are well proportioned, stout, and hardy-looking fellows." Can the same be said of the Americans? We fear not. In fact, Dr. Hammond himself is obliged to admit, further on, that : "For corresponding heights, American soldiers are not so heavy as those of European armies. The former do not grow laterally to the same extent as the last mentioned, and hence their deficiency in weight. This is the greatest defect in the physical constitution of our troops."

Professor Desor says : "Another chief characteristic of the American is the length of the neck ; not that it is absolutely longer than amongst us, but appears longer on account of leanness. The Americans, again, recognise the European by the opposite characters. 'He is a stranger, look at his neck, an American has no such neck.' The physical difference between the American and European is not only manifest in the muscular system, but also in the glandular system, which especially deserves the attention of the physiologist, since it concerns the future of the American race. The most intelligent Americans clearly perceive that the increasing delicacy of form (specially in the women) ought, if possible, to be arrested. Despite their instinctive aversion against the Irish (forming the largest contingent of immigrants), they are aware that this momentous question requires more than a passing notice. The paleness, delicacy—I think we may say *degeneracy*—of the American females, seem to be admitted on all sides. What does Mr. Hepworth Dixon say? He was asked, he tells us, by a bluff Yankee, in the Saratoga, 'What do you say now, to our ladies?' 'Charming,' of course he answered 'pale, delicate, bewitching.' 'Hoo!' cried he, putting up his hands, 'they are just not worth a d—. 'They have no bone, no fibre, no juice ; they have only nerves. Such things are not fit to live, and, thank God, in a hundred years not one of their descendants will be left alive.'"

"When looking," says Mr. Dixon himself, "at these sweet New England girls, as they go trooping past my window, I cannot help feeling that with this delicate pallor, winsome and poetic as it looks to

* *New America*, vol. ii, p. 32, et seq.

an artist in female beauty, there must be lack of vital power. My saucy friend had got some inkling of truth. Would that our dainty cousins were a trifle more robust! I could forgive them for a little rose blush on the cheek; at present, you can hardly speak to them without fearing lest they should vanish from before your face!"

One of the latest English writers on America, Sir Charles Wentworth Dilke, will not admit that the Americans are "dying." "While the Celtic men," he says, "are pouring into New York and Boston, the New Englanders and New Yorkers, too, are moving. They are not dying. Facts are opposed to this *portentous theory*. They are going west."* If the author means by "this portentous theory," the theory of the non-cosmopolitanism of man, he is greatly mistaken. Who could wish for a more telling fact than the following from the author's own pen? Speaking of the now universally admitted aversion to healthy exercise among the Americans, he says: "Rowing and other athletics, with the exceptions of skating and base-ball, are both neglected and despised in America. When the smallest sign of a reaction appears in the New England colleges, there comes at once a cry from Boston that brains are being postponed to brawn. If New Englanders would look about them, they would see that *their climate has of itself developed brains at the expense of brawn, and that, if national degeneracy is to be long prevented, brawn must in some way be fostered*. The high shoulder, head voice, and pallor of the Boston men are not incompatible with the possession of the most powerful brain, the keenest wit; *but it is not probable that energy and talent will be continued in future generations springing from the worn out men and women of to-day*."

"The prospect at present is not bright; *year by year Americans grow thinner, lighter and shorter-lived*. Ælian's Americans, we may remember, though they were greatly superior to the Greeks in stature, were inferior to them in length of life. The women show even *greater signs of weakness than the men*."† I have italicised the above passages as they bear directly and immediately on the great question whether facts do or do not support the "portentous theory."

In a discussion before the Anthropological Society of Paris,‡ M. Rameau expressed his opinion that there are certain general features which constitute an ensemble of modifications and transformations which the European race undergoes in America. Such are, an elongation of the osseous system, a shrinking of the glandular system. The skin becomes dark and dry, the hair becomes black, thick and flat like that of the Indians. This agrees with an assertion of M. Desor :

* *Greater Britain*, vol. i, p. 55.

† *Loc. cit.*, p. 53.

‡ *Bulletins of the Society*, vol. vi, p. 137.

“What still more characterises the North American is his stiff lank hair. There is a striking contrast in this respect between the Englishman and the American. We look in vain among American children, despite all the care taken by their mothers, for curly-headed children so frequently seen in England. This influence on the hair is probably owing to the dryness of the climate. Hair, as is well known, curls when moist; we are, therefore, not surprised that in England the hair is inclined to curl; whilst it remains lank in America. The hair of the European becomes in America dry, and requires pomatum, etc., to keep it glossy and soft.”

These celebrated authors are not alone in their assertions—not mere isolated examples.

M. Pruner Bey* also says: “Already, after the second generation, the Yankee presents features of the Indian type. At a later period, the glandular system is reduced to the minimum of its normal development. The skin becomes dry like leather, the colour of the cheeks is lost and is in males replaced by a loamy tint, and in females by a sallow paleness. The head becomes smaller and rounder, and is covered with stiff dark hair; the neck becomes longer, and there is a great development of the cheek bones and masseters. The temporal fossæ becomes deeper, the jaw-bones more massive, the eyes lie in deep approximated sockets. The iris is dark, the glance is piercing and wild. The long bones, especially in the superior extremities, are lengthened, so that the gloves manufactured in England and France for the American market are of a particular make with very long fingers. The female pelvis approaches that of the male.” It is but fair to add that Professor Vogt adds to the above extract: “that the head becomes smaller, we utterly deny; the exact cranial measurements by Morton contradicts this assertion categorically, by showing that the skull of the Yankee is as large as that of the Englishman.” But Professor Vogt also says that with the rest of M. Pruner Bey’s assertions he entirely agrees. “We also believe,” he adds, “that America dries up the skin and reduces the fat, an effect to which all the above differences might be reduced.” But an influence which modifies the American’s hair, eyes, fat, etc., may very reasonably be supposed to influence the size, or at least the quality, of the brain. Fat, as is well known, forms a very essential quantity of the brain; are we then to say that the fat of the brain forms the only exception to the above-mentioned climatic and allied influences? Perhaps the time is not yet come for determining the intellectual qualities of races by the examination of the brain only; but when it does come, we may be able to determine the exact influence the climate

* Carl Vogt, *Lectures on Man*, p. 432.

of America has on the Yankee's brain, and consequently on his intellectual character. We know, however, that there is already a peculiar peevishness in the American character; that children born in America are unusually precocious in their intellectual development; that there is an endless bustle and haste in American cities which indicates some abnormal influence at work.

Waitz* subscribes fully to the opinion of those authors who recognise the deteriorating effects of climate on the Americans. "It has long been observed," he says, "that the English immigrants in North America are more vigorous than their descendants" The leanness, the stiff shaggy hair, the long neck, the weaker development of the glandular system, the nervous irritation; all these peculiarities he has noticed, and adds that they may be due to "the dry west winds which predominate in the United States."

Among the other authors who incline to this opinion may be mentioned Klöden,† who says, "it is even yet not settled whether the whites could perpetuate themselves in North America were it not for the constant immigration of European settlers." Several authors, especially those supporting monogenistic opinions, endeavour to establish that the Anglo-American would, if left alone, not be driven out of the land by the force of natural conditions, but would be turned into nothing more nor less than an American Indian, that is, a red skin. Among these authors the foremost is the Rev. S. Stanhope Smith, who wrote on the subject at the end of the last, and at the beginning of the present century.‡ After enumerating several instances of the alteration of complexion and figure, and other signs which have been fully verified by later authors, he is of opinion that if they were left to a state of absolute savagism they would become Indians. His remarks are instructive, as showing that even as early as 1787, when his essay was first published, the Americans were beginning to experience a deep change in their constitution and appearance. The conclusion, however, that the ultimate point, to which these alterations tend, is the physiognomy of the Indian, is no doubt greatly exaggerated, and in fact is an altogether mistaken idea.

It did not, however, die with Dr. Smith. Other authors have noticed a similar metamorphosis. Finally this opinion has been lately expressed by M. Elisée Reclus,§ who thinks that not only

* *Introduction to Anthropology.*

† *Races of Mankind.*

‡ *On the Variety of Complexion and Figure in the Human Species*, p. 67, et seq. New Brunswick: 1860.

§ "Le Mississipi, le Delta, et la Nouvelle Orléans." *Revue des Deux Mondes*, August 15, 1859.

Europeans, but also the negroes, are becoming more and more like the native Indians. "To a stranger," he says, "who arrives in Louisiana, it seems that the complexion of the white as well as that of the black, gradually approach that of the red skins. If other influences did not counterbalance those of climate, it might well happen that in the lapse of centuries the Americans will, without exception, assume the colour of the aborigines, whether their ancestors came originally from Ireland, France, or Congo."

These are, of course, extreme opinions, and I merely quote them to show that the influence of climate on European emigrants is much more serious than is generally imagined. It is as useless to talk of turning the negro or white into a red man by this influence of climate or anything else, as it is to expect to transform a pear tree into an apple tree by changing its soil. If the latter was unfavourable, there can be no doubt the tree would perish. But what can we assert with regard to the former case? Are we to say that the ultimate fate of the present race of settlers in the United States must be that of the pear tree? This cannot be fully answered at present, but from the facts and observations produced above, I think I am warranted in arriving at the following conclusions.

1. That however defective the American statistics may be, there seems to be no doubt that from 1810 to 1850 there has been a decrease of ten per cent. in the reproduction of the race of primitive settlers; and that the census of 1860 is evidently defective in this respect; due regard not having been paid to the arrival of immigrants.

2. That the statistics of population in Massachusetts show that were it not for the increase of the foreign population the number of inhabitants must rapidly decrease; the deaths of the native-born being in excess of their births.

3. That this conclusion is strongly supported by the fact that the average number of children to one family, has descended from eight or ten among the primitive settlers, to less than three at the present time.

4. That it results from this that the primitive settlers are in fact dying out and are being replaced by foreign immigrants in this state.

5. That we have to learn whether this will be the case with the recently formed Western States, but there is no reason to think that the ultimate results will be different. The oldest states show the lowest birth-rate. This proves that the climate has begun to make itself felt, whilst in the new states on the contrary it has not had time to operate.

6. That there is a great difference between the northern and southern states in respect to health, which is fully proved by the testimony of authors as well as by the Army statistics.

7. That there is some mysterious difference between the English and American women. They either will not or cannot possess themselves of numerous families such as are noticed on all sides in England.

8. That this dislike for, or inability to possess themselves of large families cannot, in the presence of undoubted facts of physical degeneracy, be attributed solely or principally to the crime of abortion, or to the voluntary limitation of families.

9. That the imputed physical alteration, or degeneracy of the Anglo-American is fully proved to include the following points: precocity as children; early arrival at puberty and old age; increase of stature; absence of corpulence; thinness of neck; want of development of glandular system, especially in women, who also cease child-bearing while still young. In addition to the above, there is some yet unknown alteration in the brain, which produces peevishness, abnormal bustle and mental activity.

It has been well said, that the laws of the present are also the laws of the past and future. The facts before us, cannot be said to form an absolute and unassailable theory. They, in fact, do little more than indicate to us coming dangers. These indications seem to offer a most unpleasant prospect to the present inhabitants of the United States. Well may Sir Charles Wentworth Dilke say the prospect at present is "not bright," when "year by year the Americans grow thinner, lighter and shorter-lived." Well may the American journals after considering the facts before them ask, "Is the old Puritan stock dying out?" To all such facts and opinions as those I have quoted, there comes one stereotyped answer, that the cause of the physical degeneracy observed in Anglo-Americans is the mode of life or social customs. I for one cannot accept such an hypothesis. I think it more consonant with facts to conclude that the changes—call them degeneracy or development, which you will—observed in the Yankees are the result of altered cosmical conditions to which mode of life and social conditions are purely secondary. I think, too, that the facts I have produced tend to establish what the Member for Chelsea truly calls the "portentous theory," and that the history of colonisation in the North American Republic lends no support to the asserted cosmopolitanism of man, and especially to that most vain portion of humanity who calls himself Anglo-Saxon; who promulgates his so-called "civilisation" by fire and sword, and exterminates the savages of the region he invades.

The Yankees have conquered the natives, but they are beginning to find out that it is out of their power to conquer the conditions imposed by nature on the land of which they have taken possession. If they can succeed in doing this they will prosper, but until then they and

their descendants must expect to pay such penalties as those which they are now suffering. The problem before them is the same as that which puzzled Alexander the Great. "What shall I do?" he asked of Aristotle one day, "what shall I do to rid myself of those barbarous neighbours of mine?" "Alter their climate," said the philosopher; "if you can succeed you will soften their manners, but if you can't, you had better exterminate them."

Anthropological science cannot consent to consult the wishes or the prejudice of the subjects with which it has to deal. Whilst, therefore, fully admitting the powers of civilised men to struggle for a time against the decrees of nature, we must yet venture to point out even to the boastful Anglo-Saxon, that the world is not for him; and that although his skill in war and chicanery may exterminate native races, it will yet be demonstrated that in the New World the almost exterminated savages will be amply revenged by a slow, gradual degeneracy, and perhaps final extinction, of their conquerors.

THE ISLE OF AXHOLME.

BY EDWARD PEACOCK, Esq., F.S.A., F.A.S.L.

It is said that at a recent examination of candidates for the civil service, no one could answer the following question, "Where is the Isle of Axholme?" Perhaps, if the same inquiry were made in any large concourse of men, from whatever class they might be taken, a considerable majority would be found as ignorant as the crammers had left the poor youths who were on that occasion under torture. It is not the fault of book-makers, however, if the Isle of Axholme—*The Isle*, as its inhabitants proudly call it—is an obscure place. Three big volumes, two quartos and a royal octavo, have been published concerning it within the last sixty years. For all purposes in which we are interested—for every purpose, indeed, except a very doubtful commercial one—we may dismiss the compilations of Stonehouse and Read to the darkness of the great libraries. The *Topographical Account of the Isle of Axholme*, by William Peck, from which the two other authors took almost everything that is useful in their books, is a trustworthy, and in a certain sense interesting, publication. Its author, a zealous collector of facts, had, however, unfortunately, but little of literary art, and was without the advantages of a liberal education. He wrote, moreover, upwards of half a century ago, when

the means of attaining information were scanty, and when the relative value of various classes of knowledge, was but dimly understood.

Axholme, or Axelholme—the island in the water, or, perhaps, the island of the oaks—is, or rather was ere the improvements of man interfered with the configuration of the country, an island cut off from Yorkshire, Nottinghamshire, and parts of Lincolnshire, by the rivers Idle, Don, and Trent. The island proper consists of a plateau of slight elevation, on which are situated Belton, Crowle, Epworth, Haxey, and Owston, five out of the seven old parishes into which the district was divided, and a fringe of rich alluvial soil on the west bank of the Trent, where the memory of two other ancient settlements is preserved in Luddington and Althorpe. It is not usual to call a place an island merely because surrounded by rivers. Where such a designation has been applied, we are justified in concluding that the rivers have at some previous time spread out into lakes. This was certainly the case here. At the earliest time, indeed, with which we are acquainted, though here chronology, as counted by years, fails us, the whole of the district was clad with a forest of oak, fir, yew, and hazel. When or by what means it perished, we have no evidence derived from human testimony. As, however, the roots of much of it are now below the high-water of the tidal rivers adjoining, there seems little doubt that a subsidence of the whole district is the true explanation. Evidences of a similar settlement have been observed at many points on the present coast-line, from the mouth of the Thames as far north as Flamborough Head. At what time the woods perished and the marsh succeeded we can but dimly guess. No certain traces of man have been found in connection with the trees, in such a manner as to make it quite certain that any of our race ever wandered in its glades. But the evidence gathered from the discovery of weapons of wrought stag's-horn, flint, and bronze, beads of earthenware and jet, are sufficient to make out a very strong case of probability. That the woods had given place to the waters before the period when the Roman ways were laid out is almost certain. No trace of one can, as far as I have ascertained, be found within the district; and yet it is certain that, if a road could have been made, one would have been forced across the isle for the purpose of connecting Danum (Doncaster) with the Lincolnshire stations. The few Roman coins that have turned up there, and they are very few, may possibly have been brought in more recent times, perhaps as talismans; for the power of the "great mistress of heathendom" so far possessed the simple minds of our Christian forefathers as to make them believe in the magical power of such like relics, or they may have been really current coin in circulation long after the political power of the empire had ceased in Britain.

When the darkness clears away after the departure of the Roman legionaries, and we find Eastern England broken up into Teutonic kingdoms, the Isle of Axholme first becomes visible : not through the light of written records, however, as yet, but through the names of places which a German-speaking people first planted on her soil. The names of the seven parishes of the island—Althorpe, Belton, Epworth, Haxey, Luddington, Owston, and Crowle—are all certainly of Teutonic structure, except the last, which is of uncertain origin, and of which, in consequence, various absurd derivations have been given. Stonehouse derives it from the Dutch *kroll*, which, he tells us, means a “shed or small habitation” (p. 399). If the good man had not quoted Domesday—of course, in Bawdwen’s translation—one might have imagined that he thought the name had been taken from the cattle-pens of the Dutch settlers in the seventeenth century. Where all is guess work, it would be hard if I suppressed the derivation given me by an isle freeholder, when I asked him what the name meant. “Why, sir,” said he, “you see, before the drainers came, we were nearly drowned (*sic*) by water, and so crowled* upon the hill, and so the place got called Crowle.” The hamlets, as Butterwick, Derrythorp, Keadby (pronounced Kidby), Gunthorpe, are all Teutonic names. We may, therefore, assume that, although there are evident traces of a Celtic people having once wandered over the district, they had few permanent settlements, or that if they had they were swept away by the Low-German settlers. When the Saxon settlements were made here, the country must have been very much the same as it continued until the reign of Charles I. A long irregularly-shaped island, in the midst of a mere, with a fringe of villages on the Trent bank, connected with the upland in some few places by raised causeways ; the others communicating only by the use of boats. The communication with the Yorkshire side was even less easy on the west : a wide extended marsh-land had to be crossed, which was frequently too shallow for boats, and too much of a morass for people on foot or on horseback. There seems, however, evidence that at this period, or at least in the middle ages, a road existed across the isle, connecting the upland towns of Lincolnshire with Doncaster. Of course, it could only be used in dry weather. Glanford Bridge, now Brigg, on the River Ancholme, was the point where persons from the wolds of Lincolnshire crossed that stream to gain access to the wapontakes between that river and the Trent ; and from this place an old road may be traced to the Trent bank at East Butterwick, where a ferry has existed from a remote period. When the traveller gained the Isle of Axholme at West Butterwick, he seems to have gone on

. * To crowle is to creep, in the Lincolnshire vernacular.

a raised pathway, on the line of the present road, to Sandloft, where it abruptly ended, and he had to make his way over the bog by the help of a boat, or, if it were a very favourable season, it may be by a roundabout way on foot. No horse, even in the driest seasons, could have found footing on the treacherous soil.

The manorial and ecclesiastical history of the isle is not within my present province. If it were, bound up as it is with the fate of the Dalbinis, Mowbrays, and Sheffields, no want of power on my part could make it entirely uninteresting. The records, however, which relate to it, numerous as they are, are yet mostly locked in manuscript; and, until some competent antiquary shall be possessed with sufficient self-sacrificing zeal to go through them and give the world the result of his labours, no history can be written, even in the most sketchy and superficial manner, that can have any claim to trustworthiness. The names of the people, as far as they can be gathered from mediæval charters and the other shreds that have come down to us, show a population almost entirely cut off from the outer world. Hardly any topographical names became patronymics in the district, except those taken from villages in the isle itself or those just on the borders. The Fearnese and the Maws—the latter probably a Norfolk or Suffolk family—seem to be the only evident importations, and they were not here, as far as can be proved, before the early part of the sixteenth century. At the present time, Mawe is one of the commonest names in the neighbourhood. The Fearnese have long been extinct.

The quiet of a thousand years was rudely broken by Charles the First. Before he ascended the throne, the place must have been familiar to him. The kings of England had a hunting lodge at Hatfield, near its western border, where many of the latter Plantagenets had diverted themselves with the sports of the chace. Queen Philippa, spouse of Edward the Third, was confined here of her second son William, who died a baby, and found sepulture in York Minster.* Here, too, was born on the 10th of February, 1441, Henry, the eldest son of Richard Duke of York.† I am not sure, however,

* Thoresby, *Ducatus Leodinesis*, p. 15. Hatfield in Hertfordshire has sometimes been assumed to have had this honour. There is no doubt that it is due to the Yorkshire town.

† Wil. Wyrcester, *Annales Rerum Anglicarum* in Hearne's *Liber Niger Scaccarii*, ii, 461. The chronicler records in the following year another claim that this famous hunting seat has on our memories. It probably did not occur to the simple minded annalist that this form of entry would be considered anything unusual. It was called for by the fact that charges of unchaste living had been wantonly brought against the noble lady. (Cf. *Rotuli Parliamentorum*, vi, 194.) "1442. Natus est Edwardus, filius secundus

that we have any record of Charles having chased the "tall deer" within the Isle. His elder brother, Prince Henry, once enjoyed this pastime under circumstances of a highly picturesque character. It seems that once, when he was staying at Hatfield, he paid a visit to Sir Robert Swyft of Streethorpe, here he fell in with one of the Portingtons, influential people in this region, who promised the Prince that if he and his retinue would go with him they should see such sport as they had never before witnessed. The Prince accepted the invitation, and he, the royal suite, Portington, and his following, embarked in upwards of a hundred boats. The beaters frightened some five hundred deer out of the adjoining woods, which all took to the water. The royal fleet at once gave chase. It is said they came up with them just over the Yorkshire border, at a place called Thorne Meer, "and there being up to their very necks in water, their horned heads raised seemed to represent a little wood and here being encompassed about with the little fleet, some ventured amongst them, and feeling such and such that were fattest, they either immediately cut their throats and threw them up into the boats, or else tying a strong, long, rope to their heads, drew them to land and killed them."* We have here an instance of a mode of taking wild animals which would, no doubt, be very new to the Prince and his courtiers, accustomed only to follow the sports of "venerie," according to the rules laid down by those who had made one of the earliest habits of man into a complex and half chivalrous art; we may well believe, however, that it was a practice nothing new to the Yorkshire and Lincolnshire fen dwellers. It has sometimes been asked, how the men who lived in the lake dwellings of a far earlier time captured the wild animals on whose flesh they fed. Their rude weapons seem ill adapted for the slaughter of any beast as wary or as fleet of foot as the stag. May we not suppose, without any violent improbability, that this sport, witnessed perhaps almost for the last time by Prince Henry, was an old method of chase which had been handed down from a far-off time, when some such course was the only means by which the deer could be captured with certainty.

The accession of Charles the First has been called the great turning point in our modern history. The year 1627—two years later—may be said to have been the most memorable of all years in the annals of the Isle of Axholme. The King was not only Lord of the whole Isle, but of Hatfield, and many neighbouring manors. The demesne lands

Riccardi Ducis Eboraci, et heres, Rex Angliæ et Franciæ, xxviii die Aprilis, hora ii post mediam noctem in mane diei Lunæ, apud Rothomagum [Rouen] qui conceptus est in camera proxima capellæ palatii de Hatfelde." (P. 462.)

* De la Pryme, as quoted in *Hunter's South Yorks.*, i, 186.

of which consisted of upwards of seventy thousand acres of "overflowed wastes." In this year, the King contracted with Sir Cornelius Vermuyden to reclaim all this profitless expanse of mere, and to reduce the same into a fit state for pasture or tillage. Vermuyden was a Zealander,* an engineer of some note in his own country, and a man who was, as far as we can judge of him by the few and slight memorials that have come down to us, well adapted to carry out a work which would present considerable difficulties even to a person who had had the advantages of modern scientific training. He was born and had spent his early life in a country not unlike the Isle of Axholme, and had witnessed and taken part in some of those engineering triumphs which had made his native land one of the most fruitful countries of Europe. Vermuyden was to be rewarded with a third of the reclaimed soil; he at once began his work in good earnest, and invited over numerous Flemings and Dutchmen to help him in his great undertaking. So pleased was the king, or his advisers, with the great work that was going on, that, in 1629, his majesty sold a considerable portion of his own part of the drained and drainable property to Sir Cornelius for what seems a very small sum, even when we allow for the change in the value of money. This purchase was, however, the beginning of a very serious trouble. The commonholders of Epworth claimed rights of pasture, fishing, fowling, etc., over 13,400 acres of this land, under a charter of John de Mowbray, dated 31st May, 1359. These persons, conceiving that they had not had proper compensation given to them for the privileges they had forfeited, began at once to shew a very turbulent spirit. At first they were content to proceed according to law, and many and wearisome are the records which yet exist relative to this intricate business. For some years the new settlers cultivated their lands in peace. They probably would have continued to do so had not the civil war given an occasion to every ill disposed person who had, or thought he had, a ground of offence, a means of having recourse to violence. In 1642,

* Son of Giles Vermuyden by his wife Sarah, daughter of Cornelius Wordendyke. His parents dwelt at St. Martin's Dyke, in the Isle of Tholen, near the mouth of the Scheldt. He entered his pedigree in the Heralds' Visitation of London, 1633. He married Catherine, daughter of All-Saints Lapps of London—no doubt, a Dutch or Flemish lady—and had numerous issue. Of the time or circumstances of his death, nothing seems known. One traditional account, almost certainly false, is that he finished his earthly career "in the poor-house at Belton"; another, which comes on equally questionable authority, is that he "died miserably poor in the south." There is but too much reason to fear that his latter years were darkened by poverty." (Hunter, *South Yorks.*, i, 169.)

the people of Epworth and Misterton* thought it was a convenient time to pay back their old grudge, and revenge the foreigners' victory in the law courts by force of arms. When harvest was nearly ripe, they gathered themselves together in a tumultuous mob and destroyed the houses and growing crops on the low lands to the value of upwards of twenty thousand pounds; not content with reeking their fury on the new comers, every sign of authority seemed odious to them. They defaced Epworth church, tore up the ten commandments, and buried filthy carrion under the communion table. And, not satiated with this, a furious rabble tore up the gates of Snow Sewer, where the water from a great part of the newly drained land flowed into the Trent, and thus endeavoured to reduce the country to its old state of unprofitableness. Some quaint stories are told of the way in which the mob shewed its hate to the new-comers. When Snow Sewer was destroyed, it is reported that they erected stakes in the form of a gallows to show, by an easily understood symbol, what would be the fate of its restorers. Several of the settlers and their workpeople were thrown into the water and held under with long poles until they were almost drowned, and one unfortunate Dutchman is said to have been set floating on the river Trent, when the tide was ebbing seaward, among the branches of an uprooted elder-tree, with instructions to "go back to Dutchland." The poor man is reported to have escaped the perils of so long a voyage by being stranded on the opposite bank, where men's minds were not so passionately inflamed. He was, therefore, protected and kindly treated.

Things remained in this state for some years; at length, in 1645, the Parliament took what seemed forcible steps to put an end to this lawlessness and to preserve the remains of the property of the settlers. Fighting of a desultory kind, however, was kept up until 1650, when another violent riot occurred, in which the Flemish Chapel at Sandtoft was sacked and eighty-two houses of the settlers destroyed. For ten days the Islemen were in open and avowed rebellion. Colonel Wildman and the notorious John Lilburne were their leaders on this occasion. Lilburne's language was, as usual, grotesquely violent; he called the Parliament "a Parliament of clouts," said he "could make a better Parliament himself, and would when he went to London," and used various other highly offensive expressions. It was not until late in the reign of Charles the Second that these violent outbreaks were finally suppressed.

Had the settlement been permitted to go in peace, there can be little doubt that one half of the district would have been peopled by

* Misterton is not in the Isle of Axholme. It lies across the Nottinghamshire border, but was included in Vermuyden's drainage scheme.

persons of Dutch and Flemish blood. The constant state of alarm in which the earlier settlers lived hindered fresh supplies coming in from abroad, so that the infusion of foreign blood has not been so great as might have been looked for. The foreigners had a church or chapel at Sandtoft, and the register of this place from 1641 to 1681 was seen by Mr. Hunter, the learned historian of South Yorkshire. It has now strangely disappeared. If this record should ever be discovered, it would no doubt furnish us with nearly a complete list of the foreign families, and, possibly, in some cases might give indications as to what part of the Continental Low Countries was their native home.

One of their account books, now in my possession, gives a list of the landowners in 1635, but this goes but a small way to forming a complete list of those who came over, as the servants and workpeople would be far greater than those who could afford to settle as farmers. No attempt has been made to estimate their numbers. They must have been far more numerous than is commonly thought. If it had not been so, during the stormy times of our great civil war they would not have been enabled to keep up what was little short of a continuous warfare with the old inhabitants. Many of the old names yet exist in the Isle or the immediate neighbourhood, shewing unmistakably, by their foreign sound, that their owners are sprung from Dutch or Flemish settlers; but the strongest evidence we have is the present appearance of the people. If the whole history of these transactions were lost, that alone would shew that the present Isle-men had inherited other blood than their neighbours east of Trent. Their build is decidedly larger, their under-jaw more massive, hair lighter, feet and hands proportionately larger. There is a greater proportion of blue eyes, and it is said (but on this I have no means of judging) that the teeth have a much slighter tendency to decay. They have not preserved, as far as is known, a single word of their old language in their present folk speech, but the accent of their dialect has a distinct resemblance to the modern Flemish, and is, on that account, very distinct from that of Yorkshire, Nottinghamshire, or the other parts of the county of Lincoln. The women work constantly in the fields, in a manner familiar to everyone who has crossed the Channel, but strange to those whose experiences are only insular.

Nearly the whole of the land in the Isle of Axholme is in the hands of small freeholders, and, as a consequence, the people are industrious and frugal in no ordinary degree.

THE THEORY OF THE ARTS.*

THIS is an elaborate and painstaking treatise. Mr. Harris has brought to his task great research, close observation, profound and matured thought, knowledge, taste, and feeling for the beauties of nature and art. The whole work, of over 600 pages 8vo., is pre-eminently characterised by one quality, that of *reverence*. We specially notice this, as we are convinced that, without *reverence*, it is impossible even to understand, far less to achieve, anything great either in art or science. To give a thorough analysis of this work would require several notices. We must endeavour to convey a general idea of its contents, by glancing at the points which struck us as most salient, during our perusal. *In limine*, we entirely agree with the remarks in Chapter I, Section 9, on The Religious Influences and Application of Art. Mr. Harris thinks "we greatly err in not employing pictorial composition for this the highest purpose for which it could be used," and refutes most successfully the religious objections, based not on the *use*, but the *abuse* of the arts. He observes (page 26) on the ludicrous inconsistency of certain zealous protestants in their determination to exclude Papal ornaments from our churches: "All scriptural paintings, even those calculated to excite the most devotional feelings, are utterly forbidden to enter, while sculptured monuments of the most heathenish and irreverent character, in many cases erected to memorialise persons of immoral and irreligious lives, are admitted without scruple and without restraint. In our abhorrence of Popery, we have sought refuge in Paganism. The church has been converted into a Pantheon; tombs are placed there to record the bad acts of bad men, to the exclusion of all representations of the actions of Him, to whom the temple is devoted. Painting suspected to be Popish is rigidly excluded, only to afford room for sculpture undeniably Pagan."

It is, doubtless, owing to the prejudice against pictures as savouring of Popery, that there should be such a marked contrast between Catholic and Protestant churches, as regards paintings. We know no reason to be urged against pictures in a church, which would not prove equally valid against the sister arts of sculpture, archi-

* *The Theory of the Arts; or, Art in Relation to Nature, Civilisation, and Man. Comprising an Investigation, Analytical, and Critical, into the Origin, Rise, Province, Principles, and Application of each of the Arts.* By George Harris, F.S.A., of the Middle Temple, Barrister-at-law; author of *Civilisation considered as a Science*. 2 vols. Trübner and Co. 1869.

ture, and music, vocal and instrumental. We make a compromise as to painted windows. But if paintings on glass are consistent with devotion and the purity of our reformed worship, why should not paintings on canvas be admissible?

Our author traces the origin in the mind of every species of art, of which he enumerates nine forms: Painting, Sculpture, Poetry, Eloquence, Music, Architecture, Dramatic Acting, Costume, and Gardening. The germ of all these exists, active or passive, more or less, in every human mind. Indeed, were it otherwise, the productions of art could not meet with sympathy and appreciation from mankind at large. With the great majority, these artistic powers are wholly *passive*, in many doubtless, completely latent, or so slightly developed, as to be practically inappreciable; but still susceptible of growth and education. With the comparatively few, they are *active*, and are evinced in the production, or appreciation of works of art. Man has a natural propensity to imitate. He is not only fond of the art of imitating, but is pleased with successful efforts of this nature. Our author observes that, "although animals as well as man derive pleasure from imitation, yet they never appear to experience any gratification from works produced by this effect, which is a purely intellectual operation." There are, however, authentic instances of animals being deceived by pictures. Humboldt relates a curious instance of a monkey, who recognised engravings of insects and reptiles, and tried to seize the supposed animals; and what makes the fact still more extraordinary, is that the engravings were not coloured! There is, however, a faculty beyond imitation, and far more exalted—that of *origination* or *invention*, or as it is sometimes called *creation*, and our author finely says: "Surely, if the creative power of man is that which causes him most to resemble God, of all his pursuits that of art must be considered as the most divine." (Chapter II, Section 7, p. 60.)

One great advantage of the study of painting and sculpture is, that they lead to a real taste for nature, and an admiration of her fairest scenes. When we consider how evidently adapted the beauties of this visible world are to man's faculties, the mind is profoundly impressed with a sense of *reverence* and *gratitude*, and we are led from the contemplation of nature up to nature's God. Chapter III deals with the invention of the different arts, drawing a distinction between their origin in the mind, or conception, and their invention, or manifest execution, or production. Painting and sculpture subsist by themselves independently, and are at once produced by the imitative effect which calls them into being. Other arts cannot exist independently, but require to be grafted on some other pursuit or sus-

taining medium ; *e.g.*, architecture is grafted on building, and eloquence on speech. The necessities of mankind drove them to construct habitations. These they ornamented by imitating natural structures, trees, foliage, etc. Thus arose architecture. "Architecture is to building what eloquence is to language" (p. 85). One would like to believe that portrait-painting was first invented by a Grecian maiden tracing on a wall the outline of her sleeping lover's shadow. "As shadows may be deemed the inventive cause of painting, so the impressions left by objects pressing on earth or stone, may in the same manner, be considered as the inventive cause of engraving, a branch of this art." (page 70.)

Sculpture appears the most simple of all the arts, as regards its invention, through mere imitation of nature. Blocks of stone or trunks of trees bearing a fanciful resemblance to men or animals were roughly hewn, so as to render the imitation more perfect. Thus we may trace the gradual progress of this sublime art till its culmination in Greece in such statues as the Laocoon, the Apollo, and "the statue that enchants the world." Poetry is the natural speech of unsophisticated man. Primitive man, beholding the glories of sun-rise and sun-set, (especially in those climates where such effects are most gorgeous) was impelled to express the emotions of his heart. How magnificently has Buffon described the perception of beauty ministered through each sense, and the effect of the contemplation of nature upon the first man ! Every savage expresses himself in poetical language. In the artificial life of civilisation, where close communion with nature is hindered by carking cares, and daily necessities, such mode of expression becomes comparatively rare. Nevertheless, there are few persons of liberal education who have not in youth attempted poetical composition, and it is remarkable that fifty or a hundred persons rhyme with fluency, for one individual who can write prose elegantly, or even correctly. Coleridge has remarked that the first person who expressed himself fluently in prose, must have excited far more astonishment in his hearers, than would be produced by the more natural and common, emotional, spasmodic, and unconnected utterances of poetry. It is not always easy to make a distinction between poetry and eloquence, so closely are these arts connected. Mr. Harris defines the essential distinction between them in Chapter v, Section 5.

The invention of music is easily explicable in the attempts of man to imitate the various harmonious sounds of nature, *e.g.*, the melody of birds, the numerous sounds produced by animals, the murmur of the gently flowing stream, the sighing of the winds through the trees, etc. Even sounds of an opposite kind, such as the howling

and whistling of the wind, the moaning of the sea, the roaring of the waves, the report of the thunder, the shrill and hoarse cries of birds and beasts of prey, although in themselves discordant, are suggestive of combinations productive of harmony. Moreover, sounds affect us, not merely directly, as they are melodious or the reverse, but indirectly, by the association of ideas; a truth which is thus happily expressed by Cowper :

" Sounds in themselves unmusical and harsh,
Yet heard in scenes where peace for ever reigns,
Please highly for their sake."

Dancing is very properly classed, not as an independent art, but as a branch of dramatic acting; since both dancing and acting attempt to represent the emotions and passions; and their expression is typified by the attitudes and motions of the body. Dancing has been called "the poetry of motion." And the definition is just and true, so long as dancers bear in mind the advice of Hamlet to the players, "that you o'erstep not the modesty of nature." But it is hardly illustrated by a professional *danseuse* pirouetting on the points of her toes, or by the frantic whirl and languid lounge which are displayed, alternately, in modern ball-rooms. Compare the "stampede" of the gallop, or *valse à deux temps*, to the stately grace of the *minuet de la cour*! Our ancestors surpassed us in taste as votaries of Terpsichore. Dramatic acting owes its invention to the natural impulse to imitate the actions, gestures, manners, and tones of others. Acting is not grounded on any practical pursuit, and requires no sustaining medium. Mr. Harris holds that costume is as independent a pursuit as sculpture, painting, or architecture, and so may fairly rank as a separate art. We think he is right, and feel sure that a very respectable and necessary body of tradesmen will endorse the opinion that costume is an art. It is to be wished that people in general held more correct notions on the subject of dress. "Surely," says Mr. Harris, "if the decoration of our dwellings, and regulating their construction correctly, according to the principles of taste, is acknowledged to be an art, the decoration of our persons, the dwellings or temples of the immortal parts of our being, and setting them off to due advantage, displaying to the full the many beauties and graces which nature has bestowed on their formation, is no less a subject worthy of being thus treated, and of being classed among those pursuits entitled to this distinction." (pp. 90-92.) "Costume and gardening may be said to have been invented in Paradise, &c. Hence these two arts were the earliest of them all, and God himself was their original inventor."

Chapter iv deals with "The Rise and Progress of the Arts," and

Chapter v with a most important subject, "The Peculiar Appropriate Province and Especial Characteristic of each of the Arts." Our author lays down the general principle that the visible arts, painting and sculpture, are best adapted for the representation of visible objects and actions, such as the forms of men and their bodily operations; while the invisible arts, poetry, eloquence and music, are mainly fitted for description of invisible subjects, such as the workings of the soul in all its various modes." (p. 156). Artists and lovers of art should carefully study this interesting chapter, in which each art is assigned its appropriate sphere or province. For want of this essential knowledge, we continually see artists making futile efforts to extend beyond their natural bounds the effects of their respective arts. As, for example, where a painter, neglecting subjects especially adapted to his art and genius, tries to grapple with those which properly belong to poetry or eloquence. Martin presented a signal instance of this in his attempt to depict the *creation of the sun and moon*, an effort which Haydon has well shown to be utterly beyond the scope of painting. Much breath and paper are wasted in unfair and partial comparisons of the arts, and arguments to prove the superiority of one or other; the preference being generally given to that which the individual practises, understands, or loves best. Such disputes simply illustrate the principle of the adage, "There is nothing like leather." Mr. Harris takes a comprehensive view of the arts, and every one competent to take such a view, will perceive that comparisons in this petty and invidious spirit, are misleading and contrary to the large, enlightened, and elevated ideas which a generous rivalry of the arts is calculated to produce. In fact, there can be no question of absolute superiority of one art over another, any more than of superiority in sex. Each art is superior while employed upon its own special legitimate subjects, and within its own natural province. It becomes inferior only when an attempt is made to drag it beyond its special domain and force it into unnatural competition with some other art, on whose province it intrudes.

Painting and sculpture possess the obvious advantage, that they speak a universal language, quite independent of nationality or clime. Pure sculpture (in contradistinction from bas-reliefs, which approach towards painting,) should not attempt to represent events involving a number of persons or a considerable space of ground, as it is destitute of colour and perspective. It was customary with the Greeks to paint their statues, and to impart lustre to the eyes by introducing precious stones. The figure-painter may conceal his ignorance of anatomy by the special resources of his art: colour, light and shade, perspective. These are not available to the sculptor, in whom ignor-

ance of anatomy is at once perceptible ; but, on the other hand, if the statue stand the severe test of inspection from every side, foreshortening, light and shade, attend the marble figure, as they do its living prototype, and the sculptor is not required to deal with that quality which forms at once the despair and the triumph of the painter—*colour* ! Poetry has an advantage over painting and sculpture in its progressive narration and sound, though destitute of those forcible, precise, and definite appeals to the mind through the eye in form and colour, which characterise the latter arts. Of all the arts, music appears to have an influence, not only the most direct and universal, but most independent of previous study and technical comprehension. Shakspeare has told us :—

“The man that hath no music in his soul
Is fit for treasons, stratagems, and spoils.”

Disraeli observes of the power of music : “ One blast of the trumpet and thousands rush forth to die. One peal of the organ, and millions kneel down to pray.” Sacred music seems to connect us more closely with the Infinite and the Divine than any of the other arts. While listening to the strains of plaintive music, inexpressible emotions crowd upon the soul : we feel the existence of mystical and super-human yearnings and aspirations to which this world can make no fitting response. And this assurance of immortality is forcibly and beautifully expressed by Jean Paul Richter’s apostrophe to music : “ Away ! away ! thou speakest to me of things which in all my endless life I have found not, and shall not find.”

Independently of the elevating effect of architecture, and the advantage to public taste, that our national buildings should be constructed in a style corresponding with the objects of the building, the frequent accidents arising from *panic* in theatres, churches, etc., bring home to us with terrible power, that we are in fact sporting with human life, so long as we permit public edifices of any kind to be so wretchedly constructed as to become traps for human beings trying in vain to effect ingress or egress. It is not only on the score that so many of our public buildings (and monuments) are atrociously ugly, and outrage all architectural principles ; we have a right to complain on account of a practical danger imminent and serious, from their want of safety, owing to faulty construction, in which respect they are a positive disgrace to our humanity and civilisation.*

Costume stands in the same relation to dress that architecture does to building. All civilised men and women are clothes-wearing animals, but few comparatively understand the æsthetics of dress. Ac-

* See letters on “ Prevention of Accidents at Theatres”, by J. McGrigor Allan, *Public Opinion*, Jan. 8 and 29, 1870.

cording to *Sartor Resartus*; "The first purpose of clothes, as our professor imagines, was not warmth or decency, but ornament. The first essential want of a barbarous man is decoration, as indeed we still see among the barbarous classes in civilised countries." We recall the sublime impudence of Beau Brummell to a friend who had drawn attention to his own dress, "My dear sir, do you call this thing a coat?" Of all the arts, costume best reflects the character of a people, not only as regards nations and periods, but individuals. The apparel oft proclaims the man. A cursory glance at a man's dress often unfolds the rank, profession, and even the *character* of the wearer!

Chapter vi treats of The Connection between the Different Branches of Art. Our author observes: "As the principal division in animated nature is into male and female, so is the leading division of the styles of art into the grand and the beautiful; the principal characteristics of the former correspond with the qualities of the male, and those of the latter with those of the female sex. In music, the bass corresponds with the grand in art and the male in sex, and the treble with the beautiful in art and the female in sex." (p. 199.) This is a happy analogy, which we recommend to the consideration of those ladies and gentlemen who are bent on revolutionising the relations of the sexes. Many of their schemes could only become feasible by abolishing all distinctions in sex, and this, we apprehend, even an Act of Parliament will not be able to effect.

The same principles regulate each art. Hence it is by no means fanciful or absurd, as many persons suppose, that music should undertake to illustrate an emotion, or describe an event, as in oratorios, operas, battle-pieces, marches, dirges, etc., although it is evident that narration is more legitimately within the provinces of poetry, painting, and sculpture. Mr. Harris observes (p. 201), "Sounds in music closely correspond with forms and colours in material objects, as loudness with greatness, and perhaps with darkness; softness with smallness, and with light colour." As regards loudness corresponding with darkness Haydn appears to have conceived just the opposite idea. In his oratorio of the Creation, to convey his conception of the sudden blaze of light attending this sublime description, "And God said, let there be light, and there was light," he made all the instruments join together in one grand crash; so that a wag remarked, at the creation of light it was necessary to stop one's ears! Our author correctly observes, that the arts mutually aid each other, hence that they should all be advanced together. We can quite understand how, from the infirmity of human nature, professors of the same art should be jealous of one another, illustrating the vulgar axiom that "two of a

trade never agree;" but it is a special proof of a narrow and sordid spirit, for a proficient in one art to be jealous of a proficient in another! We have heard with pain, a sculptor depreciate painting. This is not only a fault in *morals* but in *art*, which is actually benefited by a generous rivalry of *all its branches*. So intimately are these connected, that it is impossible to depress *one*, without, in some degree, injuring *all*. Mr. Harris shows that "corresponding causes regulate the prosperity and decline of each;" and that excessive patronage of any one art, to the neglect of the others, is, in the end, injurious to all, including that which for a time seemed to profit from this circumstance. "So," he adds, "excessive luxury, though for a period it may occasion patronage to the music or the drama, must in the end debase the whole character of art of each kind, and involve in the common ruin, even the very pursuit which alone appeared to be deriving advantage" (p. 211). To borrow an illustration from every-day life, it is not good either for a human being or for an art to be *coddled*.

In Chapter VII, our author divides the leading principles of art into two distinct kinds: those by which objects are delineated or described, so as to represent them efficiently, adequately, forcibly; and those by which objects or subjects are treated, so as to affect the mind with various exalted and refined emotions and excitements corresponding with their own nature. The former he terms the principles of Delineation, the latter the principles of the Picturesque, and to each he devotes a chapter. He observes (p. 247): "The real, true, and highest object of painting, and, indeed, of art in general, is not so much to imitate, as to interpret; not so much to reflect, as to teach us how to view, nature." And at p. 35, vol. ii, this truth is enunciated: "Few persons have even the capacity to observe nature, and to see her as she really is; the blaze of glory which encompasses her face veils it from all vulgar gaze; and even of those who are permitted to view her, but a very small number are qualified to record what they see and feel." It may indeed be said, that the *artist* alone (using the word in its most catholic sense) has the true and full use of his eyes; that he alone reads in the book of nature, sympathises with her changing moods, and penetrates her mysteries. But although the artist may look down with pity upon the mere man of the world, he cannot afford to despise a knowledge of human nature, and general information, beyond his own professional pursuits. Mr. Harris truly observes (p. 254): "An artist should be acquainted with nature, not only as regards copying her forms and manner, but should have a knowledge of her practical operations; should be a man of science, of general information, and of the world; should have experience of life

and society, as well as of art, if he aspires to paint man; indeed, of all the branches of nature which it is most important for an artist to observe and represent closely, human nature stands preeminent." We quite agree with Mr. Harris, that "the Elgin marbles are in sculpture what Homer is in poetry," (p. 258), and that "Dress is to the human form what verdure is to the landscape." (p. 261).

In Chapter VIII we have the "Deduction of the Principles of the Picturesque." In continuation of his position that the germ of each and every art is found in the soul, our author observes that all the efforts of the mind of this class result finally in the excitement of it in four principal, distinct, and independent modes, classified as the sentiments of grandeur, beauty, pathos, and satire or ridicule. The chapter is occupied with an analysis of those principles. He enumerates the main essential elements of grandeur as: 1, dignity; 2, magnitude; 3, multitude; 4, strength; 5, boldness; 6, darkness; 7, irregularity; 8, simplicity; 9, motion. (P. 268.) From the illustrations, we select the following (p. 277):

"The most perfectly grand spectacle which it will ever be permitted to human eye to behold—which has formed the theme for the pencil of several great painters, but which painting, or any other art alone, is utterly incompetent adequately to represent—will be the Day of Judgment, in which all the elements of grandeur will be combined, and all co-existent to the fullest extent. Magnitude especially, and also multitude, must be among the elements in that scene, and the highest dignity will characterise its proceedings. No less than the whole Universe will be the space occupied by this tremendous occurrence. All Nature agonised and convulsed, shrieking forth at her approaching doom; the planets turned pallid and driven from their spheres; the mountains heaving their massive heads; the rocks quivering; the earth dissolving; the ocean foaming, boiling up from her mighty depths; the roar of the elements; and, yet more terrible than all these, the trumpet of the archangel and the voice of the Judge—must each contribute to render the scene the most sublime and magnificent and truly grand, which the mind of man can be capable of comprehending."

Chapter IX, vol. ii, treats of composition in Art, which may be regarded as the *plural* of Delineation. The latter regulates the representation of single figures, and of the different parts and proportions of each. Composition regulates the representation of various separate figures and groups of figures, in a piece, and the different branches of it in relation to the whole. Nine sections are devoted to this important subject, and illustrations are given of the principles in each of the arts.

Chapter X deals with "Description, Narration, and Action in Artistical Representation." We summarise the author's very sensible remarks

on Motion (p. 30). There is no condition more important and more difficult to describe than that of motion, the state in which a large number of natural objects are constantly existent, and the ordinary condition under which a considerable proportion are viewed. Objects in motion must therefore be represented, if nature is faithfully to be portrayed. Poetry, music, and dramatic acting seem especially qualified for the description of motion, and are very imperfectly fitted for that of stationary objects. Painting, sculpture, and, more especially, architecture and gardening, appear wholly unadapted to represent motion of any kind. Impractical as it may seem, motion is represented in painting and sculpture to some extent. 1. By such an attitude of the figure as denotes action, as running or flying. 2. By certain adjuncts, as drapery blowing in the wind, the sea agitated by waves. Only motion of a moderate kind should be represented in painting and sculpture. We have always doubted the propriety of attempting to represent very rapid motion by either of these arts. We may paint or model a bird stationary or hovering, but a bird in rapid flight does not seem adapted for delineation. By depicting the flying bird, we actually make a *stationary* object of it, thus suggesting incongruous ideas. But if it be allowable to represent objects in rapid motion, they should be placed in the distance, and not highly finished in a picture. For we have not the opportunity to observe in detail the plumage of the flying bird, any more than to count the nails in the shoes of a galloping horse. Moreover, it seems paradoxical to observe a flying bird, or a galloping horse, motionless on the canvas, when we know that their natural prototypes, under such conditions, would pass too rapidly for minute inspection, and would be in a few moments beyond the field of vision. For these reasons, we think that in sculpture it is not good taste to represent an equestrian portrait in rapid motion. A trotting, prancing, or even a walking horse, does not appear suitable to the dignified repose of sculpture. Compare the statue of Wellington, before the Royal Exchange, with the prancing statue of the warrior in Princes Street, Edinburgh,* or with the trotting statue of George III, in Cockspur Street.

The remarks on the representation of Death, Section XI, are very correct, and afford a fair specimen of our author's style; but we have not space for a quotation. It is doubtful if sculpture supplies a more effective and pathetic delineation of approaching death than the cele-

* This statue is remarkable for defects still more glaring than simple want of taste in the attitude. The hind legs of the horse do not correspond in their proportions with the fore-legs. While the former seem modelled from a hunter, the latter, from their clumsiness, appear to have been modelled from a cart-horse.

brated statue of the Dying Gladiator, the original of which (by Ctesilaus, in bronze) Pliny is supposed to have referred to, in these words:—"He made a wounded man expiring (or fainting) and he succeeded in expressing exactly how much vitality still remained." The noble lines in which Byron has described this statue, are an illustration of how much farther narration can be carried by poetry than by either of the sister arts, sculpture or painting. But if death or dying be difficult to represent, far more difficult must it be to depict adequately the returning to life. Nevertheless, the great masters of art have grappled successfully with this subject. Mr. Harris instances the raising of Lazarus by Rembrandt, and, strange to say, does not refer to what we hold to be the far superior picture of the same subject, in our National Gallery by Sebastian del Piombo. The Lazarus of Rembrandt is, indeed, a masterpiece of light and shade; but the principal figure is defective, and the grouping scattered. It has been observed that Lazarus looks more like an invalid in a bath than the man for whom "Jesus" had "wept," coming forth from one of the cave-like tombs of Bethany. Haydon's conception of Lazarus was more noble. But of the Lazarus of Sebastian, Charles Lamb has truly observed: "The world has nothing to show of the preternatural in painting transcending the figure of Lazarus bursting his grave clothes. It seems a thing between two beings. A ghastly horror of itself struggles with newly-apprehending gratitude at second life bestowed. It cannot forget that it was a ghost. It has hardly felt that it is a body. It has to tell of the world of spirits. Was it from a feeling that the crowd of half-impassioned bystanders, and the still more irrelevant herd of passers-by at a distance, who have not heard, or but faintly have been told, of the passing miracle, admirable as they are in design or hue—for it is a glorified work—do not respond adequately to the action—that the single figure of the Lazarus has been attributed to Michael Angelo, and the mighty Sebastian unfairly robbed of the fame of the greater half of the interest?"

Chapter xi deals with Character and Emotion in Artistical Representation. The pre-eminence is rightly given to the representation of human nature. The aim of a great painter or sculptor will be not only to represent the outward form and countenance of the man, but to afford an idea of his inward character. Outward delineation is but a means to an end. Hence, to portray mankind properly, the artist must understand human nature thoroughly. Modern artists are deficient in the expression of individuality and character. Much time, attention, and study, are devoted to the anatomy of limbs and figures, but little pains are taken to observe and delineate correctly the anatomy of the face, and variety of character and expression

manifested through the features, which display the working of the soul, the portrayal of which is the noblest and highest attainment of art (p. 68). "The highest prerogative of the artist is the one which resembles that of the Divinity himself, the power of giving life to his productions" (p. 71). Modern artists being limited in the exhibition of the naked figure, which afforded the ancients such scope for the display of skill, and being less aided by drapery, should rely more exclusively on expression and character (p. 73). Mr. Harris thinks the surest and most efficient mode of representing correctly the intellectual and moral character of anyone, is to first sketch from nature a head generally suitable for the individual, and then to adapt as exactly as possible, one by one, the different features according to the character intended, from the assortment of those classified for this purpose, as contained in the proposal in a subsequent section.

Turning to the indicated Section 8, p. 89, we find that character, as manifested by the face, depends on two principles: 1, the form of each particular feature; 2, the action and operation of those several features. Why should not the specific individual character which attaches to each single conformation of feature be analysed and arranged? Such a classification, he thinks, might be effected, as perfect and ample as that of colours in painting, or different styles of rhyme and metre in poetry. In the portrayal of the passions and feelings, this has been attained by Le Brun. In character, it has been attempted by Lavater, who, in his *Physiognomy*, evinces the practicability of such a plan, which would form a complete artistical grammar for the painter of human nature. Hogarth, the most original of British painters, appears to have reduced this theory to practice so far as his own works were concerned. The following is a truth which portrait-painters should lay to heart. "A knowledge of physiognomy is, in reality, as essential to a painter as a knowledge of anatomy. Physiognomy is, indeed, the anatomy of the features, which express the character and emotions of the soul." (p. 92).

Chapter XII deals with "Imagination and Invention in Artistical Representation." Our author explains the nature and extent of the originaive powers, and shows that the mind has no faculty to call into being anything beyond its own experience, and that the capacity of origination consists in nothing more than the power of compounding different ideas belonging to various objects, so as to form a new one, as in the ideas of a centaur, a dragon, a sphinx, etc. (p. 124). "Thus, in the case of Deity, of whose form or appearance we know nothing, we are unable to give any description of Him that we can consider in any way just or adequate; all that has been attempted here has been effected by borrowing and combining ideas of other

beings with which we are acquainted, so as to constitute one which was deemed to be, so far as we could conjecture, representative of Him." The elements of origination are defined as: 1, the idea of obscurity; 2, that of the possession of power; 3, that of the possession of energy; 4, that of novelty; 5, that of the possession of vastness; 6, that of supernaturality; 7, that of dignity; 8, that of the possession of the quality of noxiousness; 9, that of the possession of the quality of divineness. Section 9 contains some very interesting remarks on the Supernatural in Landscape and in Colour. It is difficult to say whether painters or poets have turned to most account the effects of moonlight and their soothing influence on the mind. Amongst artistic examples of imaginative efforts, the author gives an elaborate description of Michael Angelo's "Last Judgment", in the Sistine Chapel at Rome—perhaps, the most extraordinary and finest picture in the whole world. When will the splendour of art return to the naked walls of our churches? When we reckon the glorious roll of eminent men in art and science which Great Britain and Ireland have produced, why should we doubt the capacity of our race to develop a genius equally gifted with the Florentine? But while the doors of Catholic churches would open to admit the paintings of a Martin, those of Protestant churches would remain firmly closed against the productions of a Raphael and a Michael Angelo! The taste and reverence of Mr. Harris are both displayed in the many illustrations which he takes from Scripture. Thus, in "Celestial Comparisons and Descriptions", he quotes from Revelation the sublime description of the Last Judgment, which we have actually heard a self-sufficient Atheist lecturer hold up to the ridicule of his audience! "By every true lover of poetry, and every admirer of imaginative effort of the most exalted kind, this glorious and sublime masterpiece of inspired narration cannot but be studied with rapture" (p. 186).

The concluding two chapters contain a retrospect of British Art and its Prospects. There is an interesting account of the origin and growth of the arts. In 1350 were commenced the pictures and designs in St. Stephen's Chapel; and it is curious to see in all the accounts, observes Haydon, the continual allusions to oil-painting. Illustration of missals and books of chivalry was a favourite pursuit among the higher classes and the monks. Some of these performances were very beautifully executed, with brilliant colours. During the reign of Henry III, foreign artists were employed for the embellishment of our cathedrals and churches. In the fifteenth century, a famous painting was executed in the cloisters of St. Paul's, which is supposed to have furnished the prototype of Holbein's celebrated design, "The Dance of Death." Painting, but especially portrait paint-

ing, rose during the reign of Henry VIII. Holbein, Rubens, Vandyke, and other illustrious foreigners, assisted to inspire a taste for the pictorial art. Raphael's Cartoons were purchased by Charles I. Sir James Thornhill, who painted the cupola of St. Paul's, was the first English artist worthy of being classed as a historical painter. Sir Joshua Reynolds was the first founder of the British school of painting. In a comparison between Landseer and Sneyders, Mr. Harris thinks that, though both are admirable in depicting animal character and feeling, the expression of the British painter is generally *passive*, while that of the Flemish artist is, in most cases, intensely *active*. An illustration of this is found in the fine Sneyders recently exhibited at the Royal Academy. It may be added also that Sneyders is the most natural colourist.

In landscape, oil and water-colour, and in portrait, the English excel the Continental artists of the present day, though falling far below the portrait-painters—Vandykes, Knellers, Lelys, and Reynoldses, of former ages. He thinks that Turner excelled in mechanical rather than in mental efforts. His skill was displayed especially in prismatic effects, and on this his reputation will rest. He is far inferior generally, and in their highest qualities, to either Claude, Salvator Rosa, Wilson, or Gainsborough. He is superior to Martin in mechanical skill, although far inferior in imagination and mental power, and also in perspective effect. "The science of photography," Mr. Harris justly remarks, "has greatly aided in the copying of paintings and statues, as also the obtaining correct and literal portraits of living characters." Still "Photography presents to us not the soul-gifted man, but the form only, void of vitality and of soul. It brings before you only the ghost of nature. Phantom-like it is pale, stiff, cold and colourless, destitute of blood in the veins, fire in the eyes, or glow in the cheeks; a dreary contrast, not only to the living man himself but to the almost animate representation of a Vandyke, a Reynolds, and a Lawrence" (p. 204).

In the time of the Saxons, our churches were adorned with carving and statues, rude and uncouth generally; yet Haydon informs us that in Edward the Confessor's reign, there were executed bas-reliefs as good as anything done at that time in Europe. They even attempted representations of the Last Judgment. Some of the monumental effigies, as early as the thirteenth century, had sufficient merit to excite the admiration of Flaxman, the greatest of our sculptors, whose genius was mainly confined to *designing*, instead of being permitted to expand itself in marble. From what he *was*, we may imagine what he *might have been*, had he received proper patronage from State, Church, or Aristocracy. Mr. Harris thinks that "the purest and fairest samples

of genuine eloquence are to be found, not in the speeches of our patriots, nor in sermons of our celebrated preachers, but in the pages of our philosophical and critical writers—our Addisons, Johnsons, and Macaulays. The study has here eclipsed the senate" (p. 210). What a progress in architecture, from the temples of our British ancestors at Stonehenge and Avebury, to the various cathedrals which testify alike to the piety and taste of those who reared them; to Westminster Abbey, and St. Paul's, which our author declares to be, "in its exterior at least, far more classical and picturesque than St. Peter's at Rome" (p. 213)! "Among the ancients," observes Mr. Harris, "manual dexterity was made subservient to expressing the noblest ideas of which the mind is capable, and calling forth the loftiest emotions of the soul, and was regarded only as a means to this great end. With the moderns, manual dexterity is the very end itself aimed at, and nothing higher than, or beyond this, appears to enter the mind of many an artist, or if it does, the ideas are so poor that they are utterly lost sight of in the care and attention bestowed on the manual excellence aimed at in the performance," (p. 218). Hence the main and leading characteristic of art in our day is that of an insipid correctness. Mediocrity is the prevailing state of art at the present period (219). In music and architecture to what single grand original performance can we appeal? (p. 221).

Since the disappearance of Garrick, Kemble, Mrs. Siddons, Macready, dramatic acting has declined into insipid mediocrity. "Here, as in painting and poetry, we excel only in the representation of domestic every-day life. The grand, the sublime, and even the tragic, appear to be quite beyond our sphere." (p. 221). "Costume possesses neither the grandeur nor dignity of the martial habit of the ruder middle ages, nor the splendid magnificence and real beauty of earlier periods in our history. Originality is lost in neatness, genius is directed only to the promotion of tinsel and tawdry." (p. 222.) It is refreshing to know that in one art at least, Gardening, England has not only reached a high degree of perfection, but excels all other countries, not merely in Europe but throughout the world, in the tasteful manner in which ornamental grounds are disposed, not gardens alone, but parks and pleasure grounds, etc. We doubt, however, whether gardening has not been carried to a greater perfection in China where it ranks high as a national art, and where those employed in this pursuit are men of extensive information, and rank among the followers of an intellectual profession. (p. 249). Our author concludes his retrospect of British Art by considering the counteracting influences affecting art, and deals with three reasons assigned for our inferiority to the ancients. 1. That our climate does

not favour out-of-door life. 2. That it is unsuitable for the development of national genius. 3. That art and religion are not intimately blended together in this country. (p. 223). Art has been largely influenced by the strong and decided material bias of the age, which induces us to regard with indifference whatever is intellectual, imaginative and unseen, and to value only what is real, apparent, gross, and visible. (p. 225). We hope and believe that the dawn of a better day is at hand ; for we are convinced that materialism and atheism are utterly opposed to the progress of the arts.

Mr. Harris observes (p. 236), "The incapacity of our artists to produce great works of real intellectual merit, was sometime ago fairly tested by the exhibition of the cartoons in Westminster Hall ; liberal prizes having been offered by Government for the best designs in historical and imaginative composition. The general defect of the English school was peculiarly visible in these performances as regards want of expression, and character, and feeling which they displayed, while in each, the drawing and grouping were scrupulously correct." Want of adequate patronage is the chief cause of the backward condition of art, especially painting and sculpture, where portraiture only is encouraged, not from love of art, but because it ministers to social and domestic feelings, and gratifies family and personal vanity (p. 238). We have been called a nation of shopkeepers, and the mercantile spirit of the nation seems to pervade all ranks and classes. The purchase of works of art is looked upon as a mere pecuniary adventure. They are selected as an investment ; it is not works of merit, but works of value, that are sought. The works of living artists are disregarded, because they have not reached their ultimate sterling market value ; in favour of those of the old masters, which have a specific value, and whose worth depends, not on their intrinsic merit, but on their genuineness. But the most extensive and direct cause of want of patronage, Mr. Harris thinks to be the poverty of the nation, occasioned by our immense national debt and the many taxes to which we are in consequence subjected (p. 239). "It is surely chilling to art that, while every other profession brings to its followers comfort and competence, the artist starves ; the higher his genius the lighter will be his purse, as fewer will appreciate his merits. Not unfrequently, when they are discovered, death has placed him beyond the reach of reward."

The defective education of our artists is another cause of the deficiency in intellectual merit of the works produced, especially of that defect characterised by Lamb in his admirable essay, entitled "Barrenness of the Imaginative Faculty in the Productions of Modern

Art." It is of course impossible that noble and sublime compositions should be produced by those who are destitute of noble and sublime conceptions (p. 248). It is, however, but justice that the public at large should bear their share of blame, as the defect arises from the neglect which the arts experience as a branch of polite education. Mr. Harris thinks that "a national gallery of really good copies from the originals by artists of eminence, of all the most renowned paintings, with a corresponding collection of genuine casts from the most celebrated statues, would constitute a most valuable school not only for artists, but for the people at large," as "good copies of great works are far preferable to undoubted originals by second-rate masters" (p. 253). Mr. Harris likewise suggests a sort of partnership in the production of works of art. He thinks the conception of a grand artistical composition may be effected by one person, specially gifted for that purpose, but not possessed of the ability to embody his ideas on canvas; while another person not gifted with the originating or creative power, might embody on canvas such ideas after they had been intelligently expressed. By this means, the poet and the painter would mutually avail themselves of the special gifts of each; the former supplying as it were the *soul*, the latter, the *body* of the composition. To designs thus produced, Mr. Harris would give the general name of Graphopneumata, or spirits or souls of pictures, *γραφῶν πνεύματα* (p. 259). He further informs us that Chantrey's monumental work, the Sleeping children in Lichfield Cathedral, was suggested and designed upon the principle here propounded. It may be said indeed, that such Graphopneumata already exist, in the finest poetical and prose compositions of our great writers, from which the author has copiously enriched his pages by well selected quotations. Take as an example, the splendid description of a clear moon-light night from Homer (p. 134), and the minute and touching picture painted by Sterne of "The Captive," which could not fail to inspire a painter possessed of a moderate share of feeling and imagination. Mr. Harris includes Sterne, Burke, and Macaulay among the great writers, who, if they had followed painting as a pursuit, would have produced sublime and astonishing masterpieces, independent of any deficiency in mechanical execution under which they might have laboured (p. 261).

In reference to the establishment of a tribunal of Fine Taste, he observes: "It might be fairly urged that the Royal Academy is the fittest body, and indeed eminently qualified to constitute the tribunal in question. But it appears in many respects desirable that others besides artists, such as poets, critics, scholars, and men of letters should be combined in this jurisdiction; in addition to which it may

be observed that the performances of artists, of members of the Royal Academy, frequently require the free and independent criticism and correction of such a tribunal." (!) The proposal for professorships of art, "in each of our principal universities, with stipends suitable to, and corresponding with the importance of their duties, and adequate to ensure the services of really efficient men," derives special significance and support from the course of lectures now being delivered by Professor Ruskin. It would be interesting to inquire of the numerous "Bachelors and Masters of Arts," sent forth from our universities, how many *arts* each has severally learned there, either in theory or practice? We take the opportunity of this mild and courteous notice of the Royal Academy (remarkable also as being the *only notice* in a book on Art containing more than 600 pages), to close our Review; with the hope that the reader will be induced to make a direct acquaintance with Mr. Harris's interesting and instructive essay on "The Theory of the Arts."

J. McGRIGOR ALLAN.

THE BOOK OF NATURE AND THE BOOK OF MAN.*

CAN a book, written on an old subject, lay claim to originality? "Solomon the wise" says, "there is no new thing under the sun." And for a thing to profess novelty is usually sufficient for it to have its truth called in question. This is no doubt good, and it were well in the present day, if the propounding of every theory of high pretensions and involving great consequences, were brought to the searching test of analysis and critical examination. But in the present day things go on so rapidly that there is scarcely time to be critical.

A general principle set forth as of universal application and to be found everywhere and in everything moral, spiritual and material, must needs have been profoundly sealed up, if it remain buried to the present day. To say that all new discoveries are simple when found out is a trite remark, whose truth most persons will admit; but the writer of the "Book of Nature, and the Book of Man," claims

* *The Book of Nature and the Book of Man.* By C. O. Groom Napier, F.G.S., F.A.S.L. With a Preface by the late Lord Brougham and Vaux. Illustrated with photographs and numerous woodcuts. John Camden Hotten, Piccadilly.

to show that this principle always has been acknowledged in *fragments*, in all ages and nations from the highest and most civilised to the lowest and most degraded. This is evidently the view of the subject taken by the great Chancellor Lord Brougham, who has written a short, but highly commendatory preface to Mr. Napier's work. Lord Brougham says of him: "He is entitled to the credit of great originality, as the systematiser and reducer to a science of an idea, old as that of the Greek sages; but which has hitherto been treated only in a desultory manner by poets and metaphysicians of the German school." So that the man who writes in a new way on old and well-established truths, is perhaps as original as any man can be. Truth is not new: every *principle* connected with man and nature is as old as the creation. The discoverer of principles, does not invent a system. If he unravels a so-called new truth he merely makes bare what has existed from the beginning; and were it possible for him to carry back his views, they—supposing them to be true, would but at least bring him to the fountain of truth, and the author of creation. Lord Brougham further says, "The book unfolds a course of thought which, if I were a younger man, I should like to pursue carefully. Alexander von Humboldt would have been much interested in this work, as the style of argument reminds me of that which occupied his attention in the early dawn of the science of this century." This remark of the Chancellor speaks to the heart of most of us who are advanced in life. How many things would the old man do, if he had to begin life again. But all old men are not candid enough to perceive, that young ones have found out new paths, which they had overlooked in their journey.

We are great admirers of A. Von Humboldt, but we think that the following passage, which no doubt Lord Brougham had in his mind when he wrote the above preface, notwithstanding the beauty of its expression, and general truth of its similes, is somewhat too vague to be convincing to the general reader:—

"While the difference of sexes in all living beings beneficently binds them together in prolific union, the crude matters of inorganic nature are impelled by like instincts. Even in the darkness of chaos, matter was accumulated or separated according as affinity or antagonism, attracted or repelled its various parts. The celestial fire follows the metals, the magnet, the iron; amber when rubbed attaches light bodies; earth blends with earth; salt separates from the waters of the sea and joins its like, while the acid moisture of the *stypteria* and the fleecy salt *Trichitis*, love the clay of Melos. Everything in inanimate nature hastens to associate itself with its like. No earthly element (and who will dare to class light as such?) can therefore be found in a pure and virgin state. Everything as soon

as formed hastens to enter into new combinations, and nought save the disjoining art of man, can present in a separate state ingredients which ye would vainly seek in the interior of the earth, or in the moving oceans of air and water. In dead inorganic matter absolute repose prevails, as long as the bonds of affinity remain unsevered, and as long as no third substance intrudes to blend itself with the others; but even after this disturbance, unfruitful repose soon again succeeds.”*

It appears to us, that the great writer is rather contradictory, in saying this, “In dead, inorganic matter absolute repose prevails;” for he is thus supposing a state of things which never occurs; as in the present fabric, rest from change never takes place. In dead, as in living matter, the action and reaction of forms and substances on each other is unceasing. We think the author of the *Book of Nature* has well expressed this in these words (p. 345):

“Man’s fall was typified from the earliest creation of matter, from the time when the “Elements began to move.” Their disintegration, to take part in higher combinations, typified his fall and progress. The creation of the lowest plants and animals, constructed of these elements and their continued existence, involved disintegration:—The lower forms must feed the higher. The lowest plants and the lowest animals died to feed the higher; the highest plants and the highest animals died to supply food and satisfy the wants of man. His body dies that his spirit may attain a higher rank; it decays, that out of its ashes may spring a man of a higher order. Thus death began as soon as life. It was as necessary to the maintenance of life as of progress. Lower races pass away that higher may succeed, even of Man’s imperial family.”

We have frequently heard it remarked that children are great physiognomists, and we believe it to be often the case. Children are generally more or less lovers of nature, of flowers, of animals, and of children younger than themselves. This is before they have received artificial training, and it proves that these feelings or instincts are natural, *i.e.*, *born* with them; and it is not until education and example have produced their effects that this love of nature and *physiognomy* wears off, as to a certain extent it does in most cases. The author of the *Book of Nature and Man*, says (p. 2):

“Man has always been a physiognomist, that is to say an interpreter of signs. Some branches of knowledge are studied almost entirely physiognomically—as geology, founded on the crust of the earth, and yet pointing down to the invisible interior. The classification of man on a philological basis is mainly physiognomical, as its elements are arranged in accordance with signs possessing a resemblance, themselves pointing to processes of mind of similar origin.”

* “Vital Force”, in Humboldt’s *Views of Nature*, p. 383.

It is often said we should not judge by *appearances*. This we believe to be a fallacy ; for the fact is every one does judge by "appearances," or what they see. It is true, man does not stop at the mere outside, he reasons further, but he chiefly does so from what he sees.

We think the observations on head forms in the introduction to this work, entitled to the consideration of every anthropologist, whether he be a phrenologist or an opposer of that science. Mr. Napier divides the head-forms into round, long and narrow oval, wedge-shaped, square, wide, long and short prognathous and pyramidal. It is astonishing how much more persons feel than they reason about faces and forms ; almost everybody has a little theory of his own on the subject, not acknowledged or talked about, but a kind of instinctive way of settling his feelings and opinions of people ; and not merely the men, but even the dogs and horses he comes in contact with. What is this but the physiognomical sensation ? It is often remarkably developed in negroes, and is stronger in most other nations than in Englishmen. The remarks of our writer on the round-headed Mongols are curious (p. 3), and if he be correct metaphysics and physics singularly join hands. The "round-oval" is certainly very conspicuous in men of talent, and is confessedly chosen by painters and sculptors to show forth manly beauty and intellect.

The chapters on Geography and Ethnology contain a mass of condensed information in a wonderfully small space. But while the writer gives a summary of so much in a few pages, his main object, as throughout the work, is to display the harmony in nature, and its harmony with man the "Microcosm." It would be injustice to him not to remember that he deals in *general principles* ; so-called exceptions may occur to many persons ; but these prove nothing adversely to the above theories. Strictly speaking there is *no exception* to a rule, all things being equal, but how seldom is this so. That nations *as a whole* occupy countries best suited to their moral and physical constitution, is we think indisputable. The remark on the harmony between the characters of mountaineers and their country, as between flat countries and their inhabitants, is well illustrated in the following passages (p. 18) :

"The inhabitants of mountainous regions are usually considered to be distinguished by loftiness of spirit and love of freedom. Pure mountain air may have somewhat to do with cherishing this feeling, and scenery of a grand character, abounding in rugged precipices and deep defiles, may have somewhat to do with kindling into flame an enthusiasm which already exists. But it is an independent spirit which prompts a nation ; it is a self-reliant spirit which leads to these lofty regions, where loftiness may commune with loftiness, and

a towering spirit with a 'towering height.' The inhabitants of mountains may sometimes envy those of the valleys, where the sun shines so long, and in the days of prosperity, descend to eat the fruit of the citron, the olive or the vine; but adversity they feel to be more in harmony with the desolate crag.

"In flat countries lying at a low level, the inhabitants are mostly dull and heavy. They may be industrious, as in Holland, where the stimulus of the wants of an increasing population first led to the subjugation of the sea—a conflict which they have successfully maintained for centuries. They gaze on its 'mountain billows,' which are the only mountains they commonly behold; and which are ready with an avalanche of foam to take advantage of any defect in their 'much vaunted bulwarks,' glory over any flaw in their outworks, and engulf in the seething German Ocean centuries of labour."

The remarks in this work on the analogy between the course of rivers in many countries, and the stream of emigration by men from them, are we think very striking. The writer says: "The rivers of Europe and Asia flow in different directions towards oceans and seas, which may be taken to signify, to a great extent, the direction followed by human emigrants from the different countries. The longest portion of the rivers in Great Britain, Germany and France, flow towards the Atlantic or the German Ocean connected therewith. In harmony with this, the flow of population from these countries, is mostly across the Atlantic." And further on of the rivers of America he says, "The sea is the medium of communication between the countries; the productions of one flow down its rivers and are exchanged for those of the other. The larger size of American rivers, points to active vegetation, and to the export on a large scale of the productions of the vegetable kingdom. The portions of America which yield the most valuable minerals, are more deficient in inland navigation, than those which yield timber, and raw vegetable products. The abundance of water, although the one means of producing this fertility, yet has a further significance. *The metals and minerals are meant to be conveyed on roads of their own material.*"

Mr. Napier sees a very decided analogy between the mineral products of our own country and the character of its inhabitants, especially in the north (p. 60).

"The minerals of Great Britain illustrate national character in an eminent degree. Coal is one of our most important minerals, and is more abundantly found in the British Isles than in any part of the world of equal extent. This coal is a type of condensed energy such as the Teutons displayed; and which is more manifested, singularly enough, in the coal producing districts of Great Britain, where the population have often coal-black hair, as in South Wales, Northumberland, and Durham. They are more energetic than in the Southern and Eastern regions, which produce no coal. Coal is a coarse, dirty

mineral, but it contributes to diffuse a genial warmth throughout every district of the country. The colliers are generally admitted to be a coarse and somewhat gross section of the community, but those who visit them in their humble homes are likely to have 'a warm reception.' It is sometimes said that the bulk of British energy is 'Northern,' and it must be admitted that energy and self-reliance are more common in the North and central districts of England, than further South. But with this great power, there is much 'flame,' 'flash,' and 'smoke,' typified in a 'sea coal fire,' as contrasted with a charcoal fire, which can be obtained from local material in almost any place. This flame is clearer and hotter than that of the coal, and is much purer and more refined. It burns with little noise, flare, or smoke. This is typical of the Southern man of energy, who is much more refined than his Northern congener.

"Iron and coal, so necessary to each other, are generally found in close proximity. The iron may here represent the physical surroundings of a nation, while the coal represents the nation itself. The Teutons are the principal workers in coal and iron throughout the world. Wherever they go they turn up coal, be it Australia, America, New Zealand or Borneo. The 'charcoal iron' is the purest in quality, and being mainly made in Sweden, may typify the Scandinavian element amongst the ethnic forces of Europe; while the iron made with mineral coal typifies a coarser Saxon element.

"The cast iron so largely prepared from the clay ironstone, exactly answers to the 'iron and clay' of Nebuchadnezzar's image, which we shall dwell upon in our 'Chymistry of the Mind. It is from this iron and clay that the main greatness of the Teutons is derived. Gervinus is also right when he thinks that the toes 'part of iron and part of clay,' represent the Romanic and Teutonic nationalities, in the *locum tenens* of the Roman empire. The iron clearly represents centralised power, while the clay represents oligarchism; and is by some thought to be a type of democracy. Such might be as true at one age of the world, as the other might have been at a former period. The yield of metallic ores in Britain is vast indeed. A large portion of the metal of the world is turned out of our soil; a very large proportion of the tin of commerce is British; a goodly amount of copper, zinc, lead and the less abundant metals. Also a considerable portion of silver and a little gold accompany the lead ores of Britain."

And he says, we think very truly, that "we are industrious rather than thrifty as a nation. Were our thrift equal to our energy and industry, we might absorb much more wealth than we do, and keep the whole world in *leading strings or chains wrought out of our own metals.*" And, writing of our pottery, he says: "The civilisation of Great Britain may be read in its jugs and basins, from the period of the Celtic unbaked ware to the modern productions of a Wedgwood and a Minton—a compass, the points of which connect ancient and modern history."

A rapid bird's-eye view is given over the great countries of the

world, with interesting records of the fauna and flora of each, well contrasting them with each other, and showing the harmony of all with the human inhabitants. Lastly, a few observations are made on India and the Indo-Chinese nations, which, as speaking for themselves best, we here quote.

"India is the richest in natural resources of any country of Asia, and might well be independent of all for necessities and luxuries. The precious metals are not so abundantly found in India as in some countries less rich in organic life. Hence the tendency of them to gravitate towards the peninsula of Hindostan; while the lighter spices and manufactures of Hindostan rush back to fill the vacuum. India is protected on the north by chains of mountains, and on the west by deserts; while on the east the comparatively inert and unenterprising Indo-Chinese races act as a sand-bag, to break the force of any great incursions, from the east, of hardier or more warlike nations."

In the preface, Lord Brougham says, "Man is undoubtedly the Microcosm"; and he specially commends the eloquent way in which the author of the *Book of Nature and Man* has treated the chapters on Botany, Zoology, Geography, and Geology. Plants are taken up from the lowest and most insignificant weed, to the highest and grandest of our forest trees. They are each and all compared with Man in his various classes of life, now in one nationality, then in another: the object being to demonstrate the unity of Man and his various qualities, whether in the more ignorant savage of Australia or Africa or in the highly civilised European.

It is not a new idea to see in lofty majestic trees a type of nations or their kings. We quote here the passage on the oak from the *Book of Nature*.

"The oak (*Quercus pedunculata* and *Q. sessiliflora*), our national tree, is an emblem of British stout-heartedness and of the British constitution, which, like the tree, has continued longer than most of its fellows. Trees are emblems of nations. The yew, the oldest of European trees, represents the antiquity of the Celtic nations of Europe, which is of the date of two thousand years and upwards—the very age the yew tree attains. The oak, among the Romans, was sacred to Jupiter, and being the most famous of the indigenous trees of Europe, let us for a moment consider it as a type of the Roman Empire.

"That sweet voice of the grove, the nightingale, builds its nest at the roots of oak trees with oak leaves, and its song rises on the suppressed breeze to heaven like the flight of the rapt soul. The purple emperor (*Apatura iris*) rules the insects of the oak, and is Cæsar's emblem. He eats many of the oak leaves; but still the *prestige* of his name, and the gorgeous lustre of his plumes, cause the greatest admiration for him. The oak-gall is occasioned by the puncture of

a little hymenopterous insect. It is an excrescence, yet most useful to society. What can be more bitter than gall or than the anger of a Gaul? The irruption of the Gauls on the Roman Oak marred the beauty of the tree, while it added to its utility. Without galls there would be no ink, and no satires 'dipped in gall' could be written.

"Tannin, one of the most important contents of these excrescences, is astringent—the most powerful in general use having a binding influence on the body of man. This the great nation of Gauls exercises in Europe. And why? Because their astringency causes them to be dreaded. It is a matter of fact, that the strongest astringents have sometimes a contrary effect in very large doses. They bind more tightly than the frame can bear, so it gives way with an explosion. The little cynip that occasions these galls illustrates the development of the Empire of the Franks.

'Cradled in obscurity,
When developed to maturity,
Flies forth to colonise.'

"The oak-apple, so much sought for in May, to commemorate the residence of Charles the Second in the oak, may illustrate British progress and colonisation. Bees place their stores of wax and honey in the hollow oak, whose hard walls preserve them from the spoiler, just as the 'wooden walls' of England throw their strong shields around her commercial and peaceful industries. The oak has other insect residents. There is the purple hair streak (*Thecla quercus*) amongst the butterflies, which, by its hues, reminds us of the emperor; and it is an emperor in a small way, being difficult to catch or subdue. If the purple emperor was a type of Cæsar, so this little hair streak is that of the imitators of Cæsar who resided in the Roman empire. Such were Charlemagne, Charles V, Napoleon I.

"The young leaves of the oak are of an exquisite pink-brown colour, reminding us of the tint of new-born babes. As the leaves expand, they go through the light virgin tints of youth, deepen into the strong green of maturity, the olive of middle life, and the brown of decay. Those plants which shed their leaves, from Homer's days to our time, have been the type of rejuvenescence. The common acorns were the food of the ancient Britons, and those of some species are almost equal to chesnuts in flavour. They are protected by delicate cups, which make them among the most beautiful and finished seeds in nature. There is about them a simple beauty, a rustic elegance, which surpasses the most brilliant tints unaccompanied by an elegant form.

"The oak tree confers great benefits on man. It exercises, as he contemplates it, so many faculties of his mind, and supplies many wants. Its bark tans his leather; its galls are necessary for his ink; its timber is the 'prop of his house', and it supports the roof 'vocal with his Maker's praise.' With the oak he grooves the waves, and ventures on the treacherous sea; and he sleeps in an oak coffin.

"The acorn-cup, full and overflowing, sums up the oak's utility."

We think some of our anthropological friends will agree with Mr.

Napier's remarks on the Negro, which he indulges in as connected with the sugar-cane. He says (p. 109):

"The sugar-cane was first planted in Hispaniola in 1506; and soon the great profit derived from its culture made it the principal occupation of the European colonists. If the Spaniards conveyed it to Mexico, the Portuguese did the same to Brazil; and the cane wandered, as *the walking stick of civilisation*, over the West Indian islands.

"The preparation of sugar involved the expenditure of a great amount of labour, which, in intertropical latitudes, Europeans felt unsuited to their constitutions. The aborigines melted away under the cruelties and new mode of life forced upon them by their European masters. But the desire for sugar did not dissolve in the minds of luxurious Europeans, who were only stimulated to offer in return for it their choicest industrial products.

"Negroes in the Canaries and other islands of the African coast were found to answer so well as labourers that, in due time, they were removed to the western world. Their docility, strength, and good-natured fecundity, rendered them the true rough labourers of the tropics. Avarice, uninfluenced by feelings of humanity, caused their removal in a forcible and cruel manner, and their retention in slavery, at first little better than was their frequent lot in their own country.

"A nation was said to dwell securely when it 'dwelt under its own vine and under its own fig tree.' These are wholesome fruits. The Negroes of Western Africa dwell under poisonous euphorbias instead of vines, and under baobabs instead of fig trees. It has been frequently said that the Negroes brought to the West Indies were snatched from peace and plenty, independence, and the dignity of free men, to be ground under the iron heel of masters, in whom sentiment would fain see a greater savage than in any African chief. But if we look matters in their true light, we must see that the condition of the negroes, at the worst periods of servitude in European colonies, was an improvement on native life in Guinea, under unrestrained cannibalism, fetichism, and wholesale slaughter.

"The negroes, besides having been isolated for many ages from superior races, are inferior as a raw material. Had this material been better and the manufacturers of a higher moral caste, more might have been done. But 'no amount of washing can make a black man white.' Europeans wanted sugar, and, like 'truly practical men', did not inquire how it was obtained, although a few afflicted with 'Maw-wormism'—that dyspepsia of the mind—turned sour at sugar because it was dark, and so it had to be refined for their use."

After the chapters on Plants, the lower forms of life are taken up, including insects. Here also types are drawn between nations and even the most degraded species of animal life; for the Hydras are compared with the Jews and the Actinia with the Teutons.

"Some nations possess a Hydra-like tenacity of life; they may be out in every possible manner, and yet each section forms the nucleus

of a new nation—small, perhaps, but still performing all the functions of a distinct and separate nationality. Such were the Jews ; cut and divided in every possible manner, yet each fragment was representative of the nation, and became such in all lands. Thus the nation is inextirpable, having all the vitality, flexibility, and grasping power of the Hydra, in which they exceed all other animals, as the Jew, perhaps, does all other nationalities" (p. 121).

"If the Hydra be a type of the Jewish nationality, these (Actinia) are a type of the Teutons, being more marine in their habits, more prettily coloured in complexion, less scrupulous in diet, and inclined to hatch their own offspring or colonies. (It appears these low-classed creatures hatch their eggs, and are so far much in advance of the Hydra, which are propagated in a different way). The tentacles of the Actinia have analogy at once to the vegetable world and to the mixed independent and dependant character of Teutonic society, in which all hang on *one stem*, yet mostly work on their own account" (p. 122).

The observations on insects—especially on moths and butterflies—will, perhaps, commend themselves to more readers than many other portions of the book. They are not so original in their analogies as some of the chapters, and are, therefore, less startling, and will be less apt to call up opposing thoughts in the mind. As a specimen of the smooth, poetical, and highly moral tone of this author's writing, we give here a passage from the Moths (p. 146).

"The *Noctua*, the most truly nocturnal as a class, are more commonly dull coloured than most of the moths, and harmonise well with the gloominess of night. Some genera are most brilliant in colouring, and, wonderful to relate, have Greek and Hebrew letters on their wings. This dusky genus of moths, that fly principally during the night, illustrate 'the dark ages.' And the families (*Plusia* and *Noctua*) ornamented with Greek and Hebrew letters on their wings, may represent the cultivation of these languages in the middle ages, which contributed so much to the enlightenment of individuals, and may be compared with the gold and silver characters which shone in the manuscripts executed at this period of obscurity. The cultivation of these languages, and the illumination of works in them with gold and silver characters, was pursued amid the gloom of convents and monasteries. These slumbering embers of light prepared the minds of men for the reception of the clearer daylight of truth."

The Greek and Hebrew languages were, as far as we can tell, in a few instances studied by the small modicum of the learned in the "dark ages"; but, if we are to believe the accounts of some Roman Catholic writers, we shall have to change our opinion about this mediæval gloom, and should rather look back with envy to the "dim religious light" of those "departed joys, never to return."

Of all insects, none perhaps are more useful, certainly none so important commercially as the class Bombyces, containing the silk-

worm. The wonders of the insect world far exceed those of any branch of the lower animal world ; and it is truly wonderful how the ant, the bee, the moth, and the beetle, illustrate almost every phase of man's life and doings here below. And in their transformations even carry this illustration above the world altogether. The more we contemplate this, the more passing strange it is, and does not need a poetical fancy to convince us of its reality. We do not know how the advocates of "progressive development" explain the fact, that ants, especially, show an amount of intelligence, if we may so term their instincts, far greater than the higher mammalia. Where can the space be in their small heads for their extraordinary mechanical ingenuity, and, higher still, their co-operative faculty ? Unlike the sun-loving butterfly, the more useful bombyces fly between the dark and light. In the following paragraph Mr. Napier describes the most striking characteristics of some of these remarkable species, and compares the different stages with the present and future life of man (p. 147).

"The humble silkworm illustrates a man's phase of life. Like the child, in its early stage, it does little else but eat, and only stops to change its skin or clothing. When it has eaten its fill, it longs to do something for posterity. Its silken covering, wrought with so much care and labour finds a place at court ; among the streaming banners of victory ; the pageant of holiday or the parade and mockery of mob law. It rustles through many a noble hall or church aisle, and its cracked voice, escapes from the electric machine. The caterpillar may well labour for such a reward ; the man may well work with him for such wages ; but the man alone can fully appreciate a compact, he alone can sound the depths of the moral law. Viceroy of the Organic Kingdoms, he on behalf of his subjects pays wages and receives debts. The reward of works is various ; it may be immediate ; it may be deferred. It may blast from a trumpet, it may be unobtrusive, perceived by few, but the giver and receiver ; it may benefit the individual or his posterity. Such a reward should satisfy the hard working man, who perhaps spins all day in a dull corner ; he is not working for himself alone, he is contributing his quota to the market of labour, and sooner or later it will be rated at its value. With the eye of faith or imagination, he sees his work done, the fruit that springs from it, and in the happy dreams of the tired labourer clasps the reward."

In the chapters of this work on birds, types of all the great divisions are taken up and viewed in order, as illustrating the various classes among men and the different countries which they inhabit. There is a great deal of dry and subtile humour in many of the author's similes, and a good deal of sharp sarcasm in treating of the characters of individuals and classes in society, especially in civilised life. Lord Brougham says, in his preface, "I see he makes some re-

marks on the Lord Chancellors, I hope he does not intend to be personal." If Mr. Napier is not personal, he is sufficiently caustic on classes of mankind, and in the case of poor Boswell, whose memory is used to this kind of treatment, he brings in the well-known anecdote of the old parrot of Atures, on which some pretty lines are quoted in Humboldt's "Views of Nature."

"The most remarkable peculiarity in parrots, consists in their admirable power of imitating the speech of man; which is not however given to all species, or even to all individuals of a species in the same proportion. We have an instance in the pathetic story related in Humboldt's 'Views of Nature,' of how the unfortunate tribe of Atures' language, was preserved by an old parrot, after the tribe had for ever perished. An instance of what an humble imitator, an eavesdropper, a creature insignificant in itself, may be the means of doing. A nobler creature might be too unbending to stoop to this. Such was Boswell, who did for Johnson's memory, what the parrot of Atures did for its dead master; it preserved his language. The species tamed by Johnson, in that idiom dog latin, is the *Boswellia Parrottii* of *Canis*."

The colours of the beaks and feet of birds, and the complexions of the inhabitants of certain districts of our country, are curiously traced in the observations on the chough. (p. 220). "The chough is a red-billed, red-footed bird, with black feathers; reminding us of some of the Welsh and Cornish complexions, which are very pink, and accompanied by black hair. They form a considerable contrast to the persons with black hair and yellow skins; whom we have formerly compared with the blackbird." Most persons will look on these resemblances as coincidences or mere accidents. But the ingenious principles of this book—if true—point to a far deeper and more unvarying rule than mere accident. In fact, can we truly say that anything is *accidental*? Resemblances and analogies may be apparent to some minds and not to others, for more reasons than one. There may be much fancy on the one side, or great want of acuteness on the other, but there must be reality somewhere, and it is worth consideration whether such analogies are mere poetic fancies or ingenious accommodations of one thing to another, or whether there is a deep and universal principle of union, running through all nature and connecting everything together; those links which are closest, being the strongest. Birds and some quadrupeds are not less addicted to change of residence in summer or winter than are the wandering tribes of North America, who seek the climate they most enjoy at these seasons. Some tribes love to wander over the sea, others over the vast steppes of Asia or wilds of the New World. All things have their times and seasons, and man's life naturally divides itself into four great periods,

truly often so running into each other that the boundaries are lost. A lack of food is the stimulus in most cases, though health and even life may depend on seeking a climate, whose genial warmth infuses the energy needed, to sustain the powers, whether in man, bird or beast. Speaking of birds, Mr. Napier says :

“These different migrations remind us of emigrations amongst human populations ; whose movements are also influenced by the supply of food. The roving habits of some quadrupeds well illustrate those of nomad nations, who do not cross the seas : and the passage of birds the emigrations of human beings to countries beyond seas. Man migrates in his youth, his ‘summer of life’ to some northern country which has great resources, and in his ‘winter’ having fulfilled ‘his mission,’ he returns to the south. Men born in the north, though settled in the south, pant for their native air, which they must respire if they would recruit their strength. In like manner many birds re-visit the place of their birth. These different changes from one climate to another, are favourable to the increase in numbers and prosperity of man and animals.”

On the very important subject of Temperament, Mr. Napier makes frequent observations in the different sections of the work. That there is a quality belonging to man, and even to lower animals, which influences the whole being physical and mental, is pretty generally accepted by the learned and unlearned. In what this consists has been hitherto little known, and it belongs to the class of realities, which all feel, and few if any can explain. We judge of it from its effects on the *man* and its influence on society. This writer, so far as we are aware, is original in his observations on the Temperament of Vegetables and Insects. “Colour is equally significant of qualities in other divisions of organisms. Amongst plants as amongst horses, an analogy with man’s temperament is found. Red apples have mostly a sharp flavour, as have red currents, berberries, and many other red fruits. Black fruits have an intensely strong flavour, as black currants, black grapes, and black elderberries. Very light-coloured fruits, as white-heart cherries, white currents, and light-coloured plums, have a more delicate flavour than the red or black of the same family. Yellow fruits are commonly sweet and luscious, with less flavour than red or black, as, for instance, yellow gooseberries, yellow plums and yellow apricots, for the best flavoured apricots are streaked with carmine. The sweet rich and sustaining grain is golden, as is the basis of our nation’s credit. These various colours point to the various qualities of the fruits of the earth, they are not less significant of those of the sons of Adam, red-haired races are fiery and impetuous, and have strongly-marked qualities as in red-skinned peoples. Black-skinned races have likewise intense peculiarities, and their types are usually extremely permanent ; how difficult is it,

for instance, to eradicate traces of negro blood: one drop of ink will discolour a glass of clear water." And in writing of the colour of insects and higher forms of life he says, "The colour brown in insects, the higher animals and man, is the accompaniment of great vigour and endurance; as in bees, ants, dark chestnut horses and human Arab races. Red represents the fiery and hot-tempered in insects, horses, and red-haired people. Black represents sharpness with a great deal that is restive and a considerable impatience of control, with as great activity, but with less vital force than red. This is especially true of black insects, fowls, horses, and human races. (p. 310-311). The mental temperament, (Mr. Napier says, p. 309), can hardly be said to *predominate* in any animal but man." The mixed temperament, in which qualities are pretty evenly balanced, he considers the best in man and beast.

Colour, Mr. Napier considers was formerly more largely significant of qualities in horses than it is now. And of man, "the terms 'black' 'white,' and 'red,' meant more anciently than they do now; when in the infancy of racial types the blending of stems, the grafting of branches, the conglomeration of the divers coloured sons of clay was unknown." Hair, skin, and outline of form are all given as indications of temperature; but we have not space to enlarge on this great subject. It is interesting to trace the degree of attention given to the breeding and training of the horse in various reigns of the British Sovereigns, and to see how man has influenced this animal so as to conform him in no slight degree to his wants and wishes. Scarcely less interesting are the paragraphs on the cattle and sheep of various countries.

Mr. Luke Pike, F.A.S.L., in a paper "On the Claims of Woman to Political Power," *Journal Anthropological Society*, Appendix 1869, said "Chemistry illustrates the subject (of mind) better than any other science." Certainly, Mr. Napier holds this opinion very strongly, for he has devoted a good many pages of his present work to point out the analogy between the faculties of the brain and the elements discovered by modern chemists. He is a phrenologist, and therefore sees in these elements qualities answering to what he calls the primitive faculties in man. The old-fashioned "four elements," he compares with the four temperaments. He says, "the four temperaments of man are all comprised and included in the organisation of the faculties of his mind. They indicate his temperament *exactly*; and with far less precision—it exhibits the proportion in which he possesses all the faculties common to man."

A further part of this subject is a review of the metals, with their value and qualities, as indicative of the mental and physical constitu-

tion of man. The paragraph on Iron will remind most persons of old ideas and phrases, which are so familiar to us, as to have passed into proverbs; but which nevertheless, are only the more striking when brought together and placed in this new light. "Iron being one of the hardest and most tenacious of metals has long been accepted as typical of what is strong-willed, enduring, vigorous and sustained in the human constitution. If iron is a type of firmness, carbon is of the combativeness which supports firmness in its determined course, 'steeling' it against the action of other faculties. Steel is an even more enduring metal than iron, and being much harder, cuts through life better, combativeness must be combined with firmness in the hero of the great battle of life. Steel or iron is the metal used for balances, knives, weights, swords, cannons, and guns. Typifying justice, division, decision, execution, and the vengeful tongue of the destroyer. Men in whom the bilious or fibrous temperament predominates have often an 'iron-will,' and a complexion like the brown oxide of iron. These persons have muscles of such strength and toughness that we compared them with wrought iron; they are popularly called wiry. Iron is almost exclusively worked with tools of its own metal. Those of other metals make no impression on it, in like manner 'iron-willed men' can alone control, or aid in reducing to subjection those of similar character."

Lord Brougham says in the preface, "The author has strode the gulf between physics and metaphysics, mind and matter, instinct and reason, God and man; for his scheme of reconciling the Mosaic narrative with Modern Geology possesses advantages over those of his predecessors." And Professor Huxley, in his address before the Geological Society for 1869, says, "I conceive Geology to be the history of the earth in precisely the same sense as biology is the history of living beings," and says, "I trace a close analogy between these two histories." Mr. Groom Napier views the Mosaic account of creation as essentially typical for "what can be, may be; what has been, will be; what it has been before either in fact or in type. Therefore, we think the so-called geologic ages before the creation of man, and the seven days of creation mentioned in Genesis 1, which succeeded them, to be types of one another, and of the different ages in the so-called 'historic period,' which we believe to have commenced with the life of man on earth." He does not attempt to settle the *length* of these ages, neither does he attempt to calculate the age of the world. He holds the view of the unity of the human race, and the universality of the Noachian Deluge. He exposes the fallacy of the belief that "the ark" could have contained all the species of the globe, and shows the impossibility of the birds, insects and various classes assembling from every different

region of the world. On the other hand, he says, "The geologic evidence for a partial deluge has never been conclusively established in connection with any special *locality*. The animals of various classes and species must have been let loose upon a land fitted to receive them. Green with herbage for the Herbivora, and abounding in animal life for the Carnivora. In fact, a fauna and flora re-created and arranged for them." Re-creation is a necessary hypothesis, unless we suppose that the earth was a sterile waste when Noah went out of the Ark : *for vegetation cannot survive submersion for many months in salt water*. If we accept the view held by Hugh Miller and other geologists of a partial deluge and preservation in the ark of the animals of a particular district, still *re-creation* is involved as necessary for a provision of sustenance for a carnivorous and herbivorous population."

So we see that, according to our author's view, we must either accept his bold hypothesis or reject the deluge altogether as a thing impossible while the world was inhabited by man, animals, and even vegetables.

There is nothing more striking in this book than the rapidity of ideas, and the connecting together things from the remotest places, whether concerning time, space, thought, spirit, or matter. In fact, his analogies are subtle, and his comparisons will by some be thought "far fetched." His humour, which is perhaps more apparent in the chemistry of the mind than elsewhere, is not of the modern school. It is free from "slang:" but it turns sometimes on similarity of sound in words; yet even here is not without sense, and his puns—if such they may be called—generally involve some philosophical truth. Many sentences are alliterative, and their general effect is melodious.

It is needless to say he is no "materialist" in the common acceptance of the word; but he is no less at home in physical than in mental science, and his pages may be summed up as containing *multum in parvo*.

This work appears in three forms: a plain cover distinguishes the first; the second is elegantly bound; and the third or photographic edition contains some hundred photographs in addition to the numerous beautiful wood-cuts. Many of the photographs are from nature, and are amongst the most beautiful we have seen. The book is of the prettiest and most tasteful description as to "getting up," and the photographs of birds' nests and lower forms of life, are, we think *unique*, nothing similar having hitherto appeared in any work of Natural History. Every copy contains at least four of these photographs. Among the photographs in the book is the *chef d'œuvre* of the Royal Academician Baily, "Eve at the Fountain," now published for the first time. The botany is illustrated by views of the most

famous trees. The geology by nearly one hundred beautiful figures of fossils, which surpass anything of the kind hitherto attempted in photographic book illustration. The picturesque is not forgotten, for there is a very fine full-page view of Tintern Abbey, and numerous other lovely bits of landscape scenery, which photography alone can do justice to.

DESCRIPTION OF THE SKULLS OF THE INHABITANTS
OF THE HIGHLANDS OF PALEMBANG
(SOUTH SUMATRA).

BY DR. C. SWAVING. (A Letter to Dr. J. Barnard Davis.)*

DR. CORNELIUS SWAVING has lived many years in the Indian Archipelago, being the First City Physician of Batavia, in the island of Java, the populous capital of the Dutch East Indian possessions. In this city, he has under his superintendence different public institutions, especially a large lunatic asylum. He has long been an active and zealous skull collector. The Anatomical Museum of the University of Leyden, that of the Medical Institution of Rotterdam, all the private museums of his own native country, and many others in foreign lands, owe their specimens of crania from the Indian Archipelago mainly to him.

Dr. Swaving's previous writings are various—medical, biographical, and others; but those upon craniology are believed to be the following: *First Contribution to the Knowledge of the Skulls of the People of the Indian Archipelago*, 1861. This consists of an Introduction; a Description of Fourteen Crania of Banjarese of Borneo, with table of measurements and a beautiful plate; a Description of Seven Skulls of Dayaks of Borneo, with table and plate; and Table of Measurements of Twenty Javan Skulls. As Appendices to and continuation of this memoir, there appeared another Table of Measurements of Fourteen Skulls of Insane Sundanese from Western Java; a Description of Three Skulls of Dayaks, with a plate of one of them; on the Skulls of Eight Buginese, with a plate; Six People of Macassar and four Menaduese, all inhabitants of the islands of Celebes, with Six

* *Beschrijving van Schedels van inboorlingen van de bovenlanden van Palembang (Zuid Sumatra)*. *Kon. Nat. Tijdschrift*. Deel xxxi. Batavia, 1869.

Tables of Measurements. Lastly, *Some Observations upon the Sumatran People*, 1863.

The present memoir upon the crania of the mountaineers of Palembang is accompanied with a fine double plate, showing two of these skulls, which are hypsistenocephalic. Besides which there are fourteen elaborate tables of measurements. These are according to a system of the author's own; and embrace a large series of skulls of the people of the interior of Batavia, other races of different districts of Java, of Madura, of Bali, of Celebes (Macassar, Buginese, and Menado), of Amboyna, of Ternate, of Ceram, of Timor, of New Guinea, of Borneo, of Flores, of Sumatra (Padang, Nias, Battak, Deli, Riow, Lingan, Lampong, Palembang, Bencoolen, the Highlands of Palembang), of Negroes, of Arabs, of Siamese, of Chinese, of Philippine Islanders, of Hindoos, and of Malayo-Bengalese. These numerous measurements have been a work of considerable labour and time, and will be very valuable when compared with the measures taken by others. These tables constitute the richest metrical contributions hitherto made in illustration of the crania of the Indian Archipelago.

The author begins his essay with the remark that, in his *Observations upon the Sumatran People*, he pointed out that there is one race among the inhabitants of the Residency of Palembang whose skulls differ from those of Malays, Sundanese, Javans, Madurans, and other people in the Indian Archipelago; and that it is his present intention to describe the crania of this people.

According to the excellent Professor H. Welcker, in his craniological journey through Germany and Holland, 1864, he met with only twenty-seven skulls from Sumatra, in twelve cabinets. In the *Thesaurus Craniorum*, there is mention of sixteen Sumatran skulls. To the present time eighty skulls of Sumatrans have come under the eyes of the author, of which fifty specimens remain in his collection, partly at Leyden and partly at Batavia. Had it been his intention to write fully on the crania of the different races of Sumatra and the adjoining islands, he would have deferred this communication for some time, till a period of leisure. It might then, with accumulated materials, have appeared that there exists a difference among the people—as between their languages, so among the forms of their skulls.

The languages of Sumatra are very remarkable. Marsden observed that it is strange, and perhaps unknown elsewhere in the history of the development of man, that people of the same island and of the same origin, in nearly a like grade of civilisation, and speaking tongues which must have been derived from a common source, should use

languages which differ from one another even as they differ from all other tongues in the world. Still more, as Dr. Swaving remarks, that upon the islands along the south-west coast of Sumatra, excepting, perhaps, Nias, there are languages which have no alphabets, and which all differ from those of Sumatra. This is a case almost parallel with that of the extraordinary diversity in the animals from those of other islands, indeed of the separate islands, in the Indian Archipelago in general, according to that accomplished naturalist, Mr. Alfred Wallace. Besides the quadrupeds, too, even closely adjoining islands frequently have their own birds, which do not pass over narrow straits. These are facts which appear to be quite contradictory to modern zoological doctrines; still, with machinery large enough, their disciples seem to effect a reconciliation. A series of geological changes—subsidences and elevations of vast tracts of land—producing differences and resemblances among languages, would hardly be regarded as a sound argument in the latter case.

Among the peoples of Sumatra and the surrounding islands, there are no original Nigritos, red-black men, with frizzled woolly hair. In the ethnographic anthropology of Sumatra, there still exists much confusion, since many writers characterise the inhabitants of the island, without any reasonable ground, by the general name of Malays. Malay is the *lingua franca* of the rulers, traders, wanderers, and settlers, who have settled down along the coasts of many islands of the Indian Archipelago. By this means, the corruption of this language, the Italian of the East according to Marsden, is very great. The Batavian Malay would not be understood in the Highlands of Padang, Menaangkabo, upon the peninsula of Malacca and Quedo, and *vice versa* the Malay there spoken would not, in the rule, be understood here—*i. e.*, at Batavia. Mixed descendants of Europeans, Chinese, Africans, Arabs, Macassarese, Buginese, Balinese, Dayaks, etc., educated in inland places, where Malay is exclusively spoken, at a riper period of life come to be regarded as Malays, whenever they follow the customs and usages of the latter.

The covering of the head, its long hair, which ranges in colour from chestnut-brown to jet black, the filed or sawn teeth, the betel in the mouth, the brown colour of the skin, varying from light yellow to dark brown, and sometimes, by the influence of the burning rays of the sun, to brownish-black, the deportment, the undeveloped appearance from the want of evolution of the spiritual life, the clothing, the circumcision—all these, taken together, cause the half-breed to pass for a Malay, although very little, or even no Malay blood flows in his veins. From this we must not admit the epithet Malay in the catalogues by any means literally. They are sometimes even

less Malays than the inhabitants of the islands on the south-west coasts of Sumatra, or than those people who dwell in the interior of Borneo, or Ceram, who know no Malay tongue, but have taken up a few or many Malay words.

Whether all the people of the islands, from Madagascar to and including the Philippines, as well as the South Sea islands of the Pacific, are to be brought to the Malayo-Polynesian race, will, without doubt, be denied; for, even exclusive of the Negritos in the Philippines and the Papuans of New Guinea, I cannot perceive any unity among all the different races. Malays, Polynesians, and Australians, have here and there mingled, yet the types of the transitional forms are to be discerned. A Malay is strictly, according to your opinion, a descendant of the people of Menang-Kabo, who have spread or established themselves upon the peninsula and along the coasts of Sumatra and through the whole Indian Archipelago (*Thesaurus Craniorum*, p. 273). For a comparative craniological investigation, strand-dwellers may lead to misunderstanding, just as it clearly appears from my skulls of Batavia and Padang; and, therefore, it is agreeable to me to be able to direct your attention to the skulls of people who were born in the Highlands of Sumatra.

"The number of skulls included in Table XI amounts only to seven of men; but, besides the high and narrow cranium which occurs in No. 2 of Table IV of my *First Contribution*, I saw at Groningen, in 1864, a skull from Sumatra, which likewise possessed the hypsistenocephalic form.

"It is not alone from the skulls that I have come to the conviction that hypsistenocephalism occurs in the Highlands of Palembang, but also by the inspection of many people derived from those lands whom I have met with here in 1862 and since. I wrote, in December 1862: 'The temples were in them (three Redjang men, with short-cut hair) flat, the crown high, the cheek-bones broad in comparison with the forehead. The great length of the occiput was evident.' So that it was with especial interest that I became acquainted with your treatise, *On the Peculiar Crania of the Inhabitants of certain Groups of Islands in the Western Pacific*, 1866. On reading this important contribution, I came to the full conviction that the hypsistenocephalism of the archipelago of the New Hebrides occurs also, in a certain degree, in the highlands of Palembang, in Sumatra."

It would be difficult to follow Dr. Swaving through the remainder of this letter without translating almost the whole of it. The reader will already perceive that it is his object to show that the mountaineers of Palembang are hypsistenocephali; and he considers that they may be derived at a former period from the Mantani Islands, which are

small islands situated on the western coast of Sumatra. In support of this view, after giving an account of the origin of his Palembang crania, he goes into various subjects of much craniological interest, which can only be briefly alluded to here. He says the highland skulls have an oblong form, and are at once distinguishable from those of Lampong, Bencoolen, and the level regions of Palembang, and from those of Pedang. The mean circumference amounts to 523 *millimètres*. This mean, and the internal capacity of these skulls, are the greatest met with among the Indian people. The mean horizontal circumference, among forty-four other Sumatran crania, amounts to only 502 *millimètres*. The greatest circumference met with among three hundred skulls was observed in an inhabitant of the rich clove producing island of Saparua, on the east of Amboyna. It amounted to 550 *millimètres*.

In thirty skulls of German men, Professor Welcker found the mean circumference to be 521 *millimètres*, with a capacity of 1440 cubic *centimètres*; and where the mean circumference was 523 *millimètres*, derived from five of the skulls, the capacity was 1426 cubic *centimètres*, whilst in our five mountaineers of Palembang, with this mean circumference, they have an internal capacity of 1544 cubic *centimètres*—*i. e.*, a difference of 108 cubic *centimètres* in favour of the Palembang highlanders. Dr. Th. Landzert, of St. Petersburg, found the mean of forty skulls of Great Russians to be a circumference of 511 *millimètres*, with a capacity of 1471 cubic *centimètres*; and in a circumference of 523 *millimètres*, in ten of the largest skulls, a capacity of 1636 cubic *centimètres*, which is 92 cubic *centimètres* more than in the mountaineers of Palembang. It appears that between the Great Russians and the Germans there exists, in a mean circumference of the skull of 523 *millimètres*, a difference of 200 cubic *centimètres* in internal capacity, to the prejudice of the latter. "I here think of the skull of the Lepcha, which, with a circumference of 533 *millimètres*, had a capacity of only 1255 cubic *centimètres*, whilst a normal Lepcha skull, having a circumference of 513 *millimètres*, exhibited a capacity of 1434 cubic *centimètres*. The last weighed but 679 *grammes*, the former 1676 *grammes*." (Dott. G. Bernardo Davis, *Memoria sopra un Cranio Lepcha dell' Imalaja affetto da Iperostosi*, 1867.)

So far the five mountaineers of Palembang stand above all other Indian people—even above the Chinese; but to deduce a general conclusion from five observations would be great presumption, especially when it is known that Nos. 1, 3, and 4, as well as 6, have belonged to one or another popular agitation. The people, in the rule, choose the tallest, the strongest, and the bravest, to be the head, or to be obeyed.

After many minute observations upon the measurements of the skulls of the Indian Archipelago and others, and a carefully prepared table of breadths and heights of a large number of skulls, in their relations to their respective lengths, the author proceeds to an elaborate description of the skulls of the mountaineers of Palembang, to which the reader can only be referred.

The whole of Dr. Swaving's letter is of great value to craniologists, as it is a carefully wrought treatise upon the peculiarities of the skulls of the numerous peoples of the Indian Archipelago, by one who has had much more experience and means of observation than any anatomist who has gone before him, one who has turned his opportunities to the best account.

One of the author's notes is curious, as it refers to a rare cross between a Dayak and a Negress. He says: "Negroes produce, with Malay and Javan women, children with woolly, soft, curly, and smooth hair. Lately, I saw a Dayak with a Negress, by whom he had four children, two with lank and straight black hair, and two with woolly hair. Upon the crown of the head of the Negress there was long, spirally twisted hair, and on the horizontal circumference frizzled woolly hair. This Negress was taken as a child by a hadjee on his journey to Mecca, and brought back to Borneo, where she was married to a Dayak, and converted to Islam by the priests. The true Malays have, as a rule, smooth undulating black hair, as well as the Javans." Dr. Swaving does not say this was an African Negress. It might be asked, was she a Negrito?

OCEANIC RACES, THEIR HAIR, ETC., AND THE VALUE OF SKULLS IN THE CLASSIFICATION OF MAN.

By J. BARNARD DAVIS, Esq., M.D., F.R.S., F.S.A., etc.

IN the January number of the *Anthropological Review* for 1866, (No. XII, vol. iv, p. 47), there is a notice of the late Professor J. Van der Hoeven's "Description of the Skulls of the Inhabitants of the Caroline Islands," to which are appended a few remarks upon different subjects, with a view to explain and illustrate these skulls a little further. The first, second, third, and fourth notes were designed to point out a singular form of cranium, hitherto undescribed, which I

believe to belong to the people of this portion of the Pacific, not universally, but more commonly than to any other race of mankind, and which I designated hypsistenocephalic.* The fifth note alluded to the queries, whether the hypsistenocephalic races are any of them Papuan, and whether the term Papuan is, or should be confined to those species of men, who are distinguished by having the hair not growing equally spread over the scalp, but, in tufts, with bare spots between. The conclusion was "that the name Papuan is not confined solely to races with tufted hair; and that hypsistenocephalism has no connection either with Papuanism, or with tufted hair."

In writing upon such a subject, I believe, I said nothing in a dogmatic tone, for I merely gave the results of my reading and examination of crania. I have never been in the Pacific, and never had the opportunity to examine its various and curious Islanders. The matters descanted upon are of much interest, and the opinion of anthropologists on them can scarcely be said to be settled or uniform. The great want still is fresh observations, made by men whose minds are unwarped by any prepossession or hypothesis, and who shall have had the opportunity of deliberately, patiently, and fully examining the phenomena exhibited by these Islanders in the regions in which they live.

In the latter end of the same year, 1866, appeared Mr. W. T. Pritchard's *Polynesian Researches*. In this interesting work, Mr. Pritchard gives an account of his early life in Tahiti, where he was born; of the Samoan Islands and their inhabitants, where he resided with his father, who was British Consul; and then describes his own career in that capacity in the Feejee Islands.

In the last chapter of this volume, entitled "Polynesian Anthropology," he announces the results of his personal observations during a course of fifteen years, which chiefly embraced Fiji, Tonga, and Samoa, with the contiguous Atoll grouplets. At the outset, he states that "the people who *now* inhabit these three groups are more or less mixed races, though originally they were *unquestionably totally distinct*." This is an important opinion. He says, "the Samoans and Tongans are Malays, the Fijians Papuans. Before going into an enumeration of the various legends and traditions of the Polynesian Islanders, to which Mr. Pritchard attaches considerable importance, he enumerates in the following passage the distinctive physical characters of these people. "Fiji is especially remarkable as the group where the black

* The subject of these remarkable skulls was much more fully elucidated in a monograph, "On the Peculiar Crania of the Inhabitants of Certain Groups of Islands in the Western Pacific," to which are added three plates. *Transactions of the Dutch Society of Sciences of Haarlem*, 1866.

and the copper-coloured races—the Papuans and the Polynesian-Malays—come into immediate and direct contact, and more or less assimilate by intermixture. The skin of the pure Fijian is dark, rough, harsh. His hair, naturally black and copious, is bushy, persistently frizzled, almost wiry, indeed, it seems something between hair and wool. His beard, of the same texture, is equally profuse and bushy, and is his greatest pride. His stature is large, but somewhat less than that of the Tongan and Samoan; his muscular development is more perfect, while his limbs are less rounded, and his figure generally slighter. His eye is restless, his manner suspicious, his movements light and active. The skin of the pure Tongan or Samoan is a dark *reddish-brown*, smooth and soft. His hair though naturally black and copious, is coarse, seldom wavy, generally straight. He is almost beardless, and abhors a hairy chin. His stature is herculean, his limbs well rounded, his figure symmetrical; his manner is quiet and confiding, his actions pre-eminently graceful; his eye is soft and subdued, and his movements, lacking energy and quickness, are deliberate and stately. A comparison of the profile of the Fijian with the profile of the Tongan or Samoan, shows that the former is more prominent than the latter, and the forehead higher and more expansive.” (p. 377). It is worthy of notice how very closely this agrees with Mr. Alfred R. Wallace's contrast between his Malays and Papuans.* The chapter closes with a number of instances of the drifting of canoes, and thus the involuntary migrations of the inhabitants of the different Polynesian Islands.

Perhaps the most important anthropological portion of this volume is that contained in its appendix. Appendix A is on the “Physical and Psychological Condition of the Inhabitants of Viti, Tonga and Samoa.” In this essay we perceive the philosophy of the writer to be that the natives of these islands are capable of being vastly and indefinitely improved, of being “civilised,” of being converted to Christianity, and that such changes produce or are coincident with some amount of alteration in their physical organisation.

He begins by saying that the chiefs are finer looking men than the commoners; intellectually and physically they are superior, the contour of their features is more striking, more definite, *the skull altogether larger*. “The true cause of the intellectual and physical superiority of the chiefs is in the fact that as leaders, their mental faculties are more continuously active than those of the commoners.” The fact that the stature and appearance of the chiefs are superior to those of the commonalty has been affirmed by Captain Cook and

* *The Malay Archipelago*. By Alfred R. Wallace. Second edition. Vol. ii, p. 103.

others. A Continental writer upon the Indian Archipelago, attributes the same fact to the mixture of Arabian blood, at a remote period, in the families of the chiefs. Mr. Pritchard makes the same statement with respect to the Polynesian priests, and explains the phenomenon in a similar manner. But when he comes to speak of what he considers he has seen, it appears that he is mainly relying upon theory. He says: "Take a Samoan, born under the improved associations and influences, educated at the Missionary Institution at Malua, where mental development is facilitated by withdrawing the pupils from the old associations and influences, and domiciling them within the precincts of the college grounds, where their energies are further stimulated by competition and contrast with each other—compare his skull with the skull of a Samoan born and reared under the old associations and influences; an incipient difference in the form of the cranium is just perceptible. The cranial capacity of the former is just appreciably greater than that of the latter," p. 415. This passage shows that the asserted alteration in the form and size of the cranium is nothing more, at most, than the impression produced upon the author's eye. It is not a fact deduced from actual and accurate observation by measurements, etc., but is an appearance estimated by a glance. The validity of such an appearance, even if seen by others, cannot be regarded as of any great importance. Those who have devoted their efforts to determining the size and capacity of the skull, will know that no reliance is to be placed upon a mere visual estimate—that the eye may easily be misled, and that the worth of observations of this kind is very small indeed, unless based upon very careful measurements. The author further proceeds: "The crania of the *children* of the natives born and reared under the improved moral and intellectual condition, when these children (the second generation under the new development) are themselves under the direct and immediate force of the new associations and influences, especially in the missionary connections, show a yet more appreciable improvement of capacity than the crania of their parents. In the next, the *third generation*, the metamorphosis will, I think, be positive, definite, and unquestionable." (*Ib.*) The showing of this appreciable improvement of capacity has a very airy and unsubstantial foundation. Notwithstanding, it may be readily allowed that such an improvement, as we consider it, would be very acceptable and gratifying to our notions respecting ameliorating influences moral and intellectual. It only wants to be proved, not to be assumed, for it would be joyfully accepted by all. No doubt it perfectly corresponds to the author's high appreciation of missionary labours. But what are we to say of other groups of Polynesian Islands, where missionary labours have been going on for ages, and from

the pliant disposition of the islanders have been considered to be pre-eminently successful. Have the Sandwich Islanders, at one period so numerous and so finely developed, been improved physically and morally in such an obvious and striking degree as we might reasonably have expected, if the hypothesis of the author had been true? Able and intelligent observers, who have been long residents in these islands, speak only of both moral and physical deterioration concurrent with the conversion of the natives, and, what is quite consonant and notorious, is the fact of the steady and rapid decay of the people, and the depopulation of the islands to a degree that is quite appalling. With a knowledge of such facts, which are by no means confined to the Sandwich Islands, every reflecting person must entertain a doubt whether the "civilising," which really and only means the diffusing of *our* European notions and customs among these primitive people, in the place of their own, and conversion of these islanders of whom Mr. Pritchard writes, may be attended by their physical development and their moral amelioration. Looking upon missionary efforts among aboriginal races, both catholic and protestant, in various parts of the world, it may be safely said that they have singularly failed. And the question may be asked, with all respect to Mr. Pritchard, has he given us such data as to ensure a reasonable and justifiable hope that they will have a happy and successful issue in the Samoan, Tongan, and Feegeean Islands? We *fear* he has not.

At the conclusion of this Appendix A, Mr. Pritchard enters upon "the interesting study" of the fusion of races and of half-castes. From his observations and remarks, it is apparent that the effects of intermixture of blood are very prone to die out, and that there is no reasonable hope of the production of a new race by the intermarriage of the half-castes. The progeny ceases to be fertile at an early date. This is confirmatory of all we know of the essential and irreconcilable diversity of human races.

We now come to Appendix B, which is a repetition of a communication already made to the *Anthropological Review*, No. XIII, April 1866. This it is more particularly our object to consider. It is entitled "Hair and Crania."

Here Mr. Pritchard sets out with some remarks which are at variance with what former observers have taught us. He does not speak in positive terms; but it is apparent that he regards it as a mistake that any of the natives of the Pacific Islands have that peculiar kind of hair which grows in "separate spiral tufts", with bare spots between. His words are: "The allegation, which has found favour with some ethnologists, that the hair of certain islanders of the Pacific (variously described as Oriental Negros, Negrillos, Negritos, and

Papuans) grows not equally spread over the scalp, but in tufts, with bare spots between, is one which I very much question. So far as I have been able to learn, the hair grows spread equally over the scalp; and I think it will be found that the 'separate spiral tufts' are directly the result of an artificial process" (p. 425). If this be really correct, it would seem that the separation or segregation of the tufts of hair upon the heads of many of these people, which has been spoken of by Mr. G. Windsor Earl and many others, is merely an artificial result of their mode of dressing the hair. Mr. Earl, who was a personal observer, expresses himself quite distinctly. He says: "The Papuans have very few characteristics in common with the brown coloured races of the Indian Islands, but their most striking peculiarity consists in their frizzled or woolly hair, which does not spread over the surface of the head, as is usual with the negroes of Africa, but grows in small tufts, each of which keeps separate from the rest, and the hairs, if allowed to grow, twist round each other, and form spiral ringlets. Many of the tribes keep the hair closely cropped. The tufts then assume the form of little knobs, about the size of large peas, which give the head a singular, but not altogether unpleasing, appearance; for the regularity of these little knobs is so great, that the first idea which strikes a stranger is that they have been produced by a stamp."*

Mr. Pritchard even goes a step further than this, and is inclined to assure us, as the result of his observations, that all kinds of human hair may be trained to present the appearance of the hair of these islanders—*i. e.*, either the separate spiral tufts or the mop-fashion. That the Tongans and Samoans whose hair is straight, not in the least degree crisp and woolly, can by culture reduce their hair to the separate spiral tufts, "looking as if they grew naturally, and there seemed to be bare spots between them."

The subject itself is a curious one, and deserves further investigation, but if Mr. Pritchard's positions are correct, the notions hitherto entertained by anthropologists are quite unfounded, and there could scarcely be anything to prevent a Chinese or a North American Indian presenting himself to some future inquirer with a mop-head, or one with separate spiral tufts and bare spots between them. This view of so high an authority as Mr. Pritchard, may do much at least to unsettle the confidence of anthropologists in these peculiar kinds of hair. We certainly *know positively* that some of the races of South Africa, as the Hottentots and Bushmans have hair growing in separate spiral tufts which have bare spots between apparent to everybody. It is also well known that the hair of these people has a particular confor-

* *Native Races of the Indian Archipelago: Papuans*, p. 1.

mation ; it is very fine and *eccentrically elliptical*, or flattish, like that of the beard and pubes. Upon this quality it is that its excessive curliness depends. And it is also equally well known that some of the Pacific races possess hair of exactly the same structure. *Cylindrical* hair like that of the Chinese and North American Indians might possibly be induced to curl, but it is most likely that a pair of hot curling irons would be indispensable to give it the twist which would not be permanent, but soon effaced. Mr. Pritchard admits that the Samoan hair which he has known to undergo the process that renders its appearance to be that of separate spiral tufts with intervals between them, is naturally *flowing*, therefore will have some ellipticity in its section. He says, "I have observed that, the more crisp and woolly the hair, the longer it will retain the separate spiral tufts after they are artificially produced."

But my chief object is not to throw discredit upon the affirmations of Mr. Pritchard, which I have no right to do, as I cannot use the language of an observer, except as to the structure of the hair itself, but to lay before the readers of the *Anthropological Review* the statements of an experienced observer, who has spent many years in the Pacific, and visited many of the Islands in which the tufted hair occurs. This I am enabled to do in consequence of having recently received a letter from this gentleman, whom I regard as a very competent authority.

Let us hear what he says, first as to the form of the skull, and then with regard to the character of the hair. These are his words, speaking of the natives of Faté or Sandwich Island in the New Hebrides : "The heads of these people are certainly remarkable, long, narrow, and high. I have never seen elsewhere in Polynesia so exaggerated a form of this type. I have some of these people often about me, and never fail to arrive at their nationality by examining their hair. The generality of the natives in Fiji, and I believe most islands to the westward have hair growing in tufts, not twisted by art into tufts, but clearly growing in tufts, with well marked intervals, and may be compared to some varieties of grass, which growing in little bunches permits the soil to be seen between each root. The peculiarity of growth, I believe, will be found most strongly developed in the Faté natives. It is as exaggerated as their type of skull. I have had a man from Faté in the bow of my boat, twenty feet distant from me, with this peculiarity so marked, that looking at him I could distinguish more skin than hair upon his head. Many of the young boys have hair thin, curly, tufted, and so distinct that they are little better than bare-headed." This last remark seems to be quite conclusive against Mr. Pritchard's attribution of these remarkable peculiarities

of hair to art and fashion. And the early portion of the passage appears to be equally confirmatory of what I have asserted respecting the hypsistenocephalic skulls of these Islanders.

Before I proceed to the further statements of my correspondent with respect to the hair of other Pacific Islanders, it will be worth while to allude to an affirmation of Mr. Pritchard, concerning the conformation of the skull among these people. He says, "on the question of crania, it will be well for theorists when treating of the skulls of the Pacific Islanders, ever to bear in mind the practice which prevails, more or less, in all the groups, of squeezing the heads of infants into the locally-admired shape, which shape varies somewhat in every group. Before a child is a month old, its head is made to assume a totally different shape from that designed by nature, whatever that may have been. The shape and development of the crania, are thus, in a measure, the result of an artificial process. In some cases, the tender skull is squeezed on the sides, over the ears, to make the head elevated in the centre. In some islands, it is pressed on the top and on the forehead to make it project behind." (p. 427). I am not aware that I am much of a theorist with respect to skulls. Mr. Pritchard can hardly be acquainted with the opinion of the older anatomists that the brain wholly determines the shape of the skull, now more correctly modified in such a manner as to allow both the brain and the skull to have a mutual causative influence in determining the form of the latter. But the great defect in Mr. Pritchard's argument arises from his supposing that any pressure made upon the head of a new born infant by the hands continued and repeated for *the first month of its life* will permanently alter or modify its shape. Such could not be the case, for both brain and skull are in some measure elastic, and will return to their normal form when the pressure is removed. There are and have been many races of men among whom an artificial shape is, or has been impressed upon the head. This, however, is always done by bandaging, and compresses, sometimes made of wood, which are permanently applied, and not removed until the child has reached the age of about one year. There need be no hesitation in saying that this permanent and continued pressure is the *only* mode to produce an artificial form of the head. Occasional and transient pressure for the first month of life could not effect this purpose at all. Therefore, whatever Mr. Pritchard attributes to an occasional squeeze of the hand of Polynesian mothers may be taken for what it is worth.

Respecting the *colour of the hair* my correspondent will be seen to confirm all that has been asserted by Mr. Pritchard. He writes, "Touching the colour of the hair, I think it right to inform you, every

shade of colour may be found in any island. The natives use lime which turns the hair all shades, from light yellow or tow colour to brown-red. Again, roots and bark of trees are largely used. At Rotumah, peopled by a race well worthy of your attention, the hair frequently reaches in long wavy tresses to the hips. Lime, and an extract of 'dawa' bark, turn it a rich often golden red. Without the use of any of these artificial aids, I think all the natives of these waters, Papuans and Malayo-Polynesians, will be found to possess *black hair only*."

My correspondent's further observations on the hair of these remote Pacific Islanders, and other matters, are well worthy of being preserved. "The whole group of Gilbert or Kingsmill Islands, extending over six degrees of latitude, with one exception, is inhabited by straight, long-haired people. This exception is the north island, marked Pitt's Island on the chart, the Taritari, or Makin of the natives. The people of Taritari have the same language, manners, and customs as those of the other islands in the group, but not straight hair. Strange to say, they have curly 'fuzzy' hair, growing in luxuriant abundance and looking like a large black mop, but not a 'thrum' mop. So large and thick is their hair, always beautifully kept, that men carry miniature spears of hard wood two feet long, generally stuck over their ears. While smoking and chatting, these knitting-needle-like combs are run through the hair, or employed to scratch any part of their scalps, otherwise inaccessible. In fits of anger they are sometimes hastily withdrawn and used as daggers with fatal results.

"The *teeth* of these people cannot well be discoloured like those of Malays. Betel nut is not known, neither is *ava*, or *kava*, which so much discolours the otherwise fine teeth of the Polynesians. Most of these people have slight whiskers and moustaches. At Ellice's group, in one island above St. Augustine, native name "Nunemaya," the men are heavily bearded, and not a little proud thereof. Thus, in Gilbert's group, we find straight-haired men, with one exception—the curly-headed Makin men. In Ellice's group, just south of Gilbert's, the men have, as a rule, a dozen straggling hairs for a beard, excepting at the little isle of Nunemaya, where the men have splendid beards.

"*Tattooing* throughout the Carolines, or at least the eastern group, is always in straight lines. The favourite pattern is the fish-bone, placed length ways on the body or limbs.* In Fiji, only two parts of a woman were tattooed, viz., the lips and the labia.

* This is in perfect agreement with the men and women of the island of Gouam in the beautiful Plates 53 and 54 of the voyage of *L'Uranie* and *La Physicienne*. Their legs are tattooed with long streaks, in the herring-bone pattern.

"Throughout the Eastern Caroline Islands and Ellice's group, the custom of keeping ancestral heads, or skulls, prevails. At Apamama (Gilbert's Island), the skull of one old king receives a sort of adoration. In Ellice's group skulls of head chiefs are hung up in houses and taken down periodically, and oiled during the weeping and wailing of women. I was present at one such ceremony. At some Islands the women not only weep, but beat their eyes from time to time with their fingers, until the eyelids are so swollen as to render it necessary to keep in the house for some days.

"The colour of the Radack, Ralick, and Kingsmill men has long puzzled me. Among twenty light brown men, one may observe a thick-set fellow as black as a Fijian.

"The *scaly eruption* is very common and very disgusting. I have seen scales absolutely being blown off a man. Perhaps their diet, exclusively fish and cocoa-nuts, with a very, very small allowance of *poipoi*, an Arum, may produce this cutaneous eruption. Fish is more frequently eaten raw than cooked."

Mr. Alfred R. Wallace, the distinguished naturalist, who courageously devoted eight years of his life to researches to promote the study of his favourite science in the islands of the equatorial region of the extreme Western Pacific, to the west of New Guinea, with such remarkable zeal, perseverance and also success, came in contact with some of the races to which the term Papuan is applied. These people, I have long had reason to know, excited his especial attention and interest. In the charming volumes entitled *The Malay Archipelago*, he has introduced frequent notices of them, and attempted to delineate their characteristics with much success. Although, in one sense, subordinate to natural history as usually pursued, his work is rich in anthropological materials, for he always devoted his attention to the people among whom his pursuits threw him, and made them the subject of his keen observation. A notice of Mr. Wallace's work, extending over a number of pages, has appeared in this *Anthropological Review*, No. 26, p. 310. His travels did not extend to the New Hebrides, Carolines, Solomon Islands, or to those to which the term Polynesian is most usually applied. In his general sketch of the typical Papuan race, he says, "The colour of the body is a deep sooty-brown or black, sometimes approaching, but never quite equalling, the jet-black of some negro races. It varies in tint, however, more than that of the Malay, and is sometimes a dusky-brown. The hair is very peculiar, being harsh, dry, and frizzly, growing in little tufts, or curls, which in youth are very short and compact,* but afterwards

* This appearance of the peculiarity of the Papuan hair, as we may call it for want of a better name, in early age, seems seriously to weaken the

grow out to a considerable length, forming the compact frizzled mop which is the Papuan's pride, and glory. The face is adorned with a beard of the same frizzly nature as the hair of the head. The arms, legs, and breast are also more or less clothed with hair of a similar nature" (vol. ii, p. 273). Of the hair of the people of Dorey, in New Guinea, he speaks in the following sentence, "Their colour is a deep brown, often approaching closely to black, and the fine mop-like heads of frizzly hair appear to be more common than elsewhere, and are considered a great ornament, a long six-pronged bamboo fork being kept stuck in them to serve the purpose of a comb; and this is assiduously used at idle moments to keep the densely growing mass from becoming matted and tangled. The majority have short woolly hair, which does not seem capable of an equally luxurious development" (ii, 185). In a later page, Mr. Wallace speaks of "the Negritos, the black woolly-haired races of the Philippines and the Malay Peninsula," and points out the numerous marks of difference which distinguish them from both Malays and Papuans. His concluding sentence is that they "agree very closely in physical characters with each other, and with the Andaman Islanders, while they differ in a marked manner from every Papuan race." This is almost the only evidence to be derived from Mr. Wallace's beautiful book on the subject of hair, who had not the opportunity of seeing those people who are most remarkable for their hair growing in separate tufts. The figure Mr. Wallace gives of the New Guinea men at p. 185, is almost precisely identical, as far as the hair goes, with that of Thakombau, the Feejee chief. Besides the Negritos and the Andaman Islanders, and perhaps more truly than the former, to judge from specimens of each hair which we possess, the lately extinct Tasmanians, a large robust race, had this peculiar frizzly hair, growing in little tufts in a thrum-like manner, which they dressed with grease and red ochre.

One of the most important anthropological conclusions of Mr. Wallace is that the Malays and the Papuans are two distinct races. "In the *Malay Archipelago* we have an excellent example of two absolutely distinct races, which appear to have approached each other, and intermingled in an unoccupied territory at a very recent epoch in the history of man; and I feel satisfied that no unprejudiced person could study them on the spot without being convinced that this is the true solution of the problem, rather than the almost universally accepted view that they are but modifications of one and the same race." (ii, 217). This conclusion is often repeated. Still, Mr. Wallace must not be hastily regarded as belonging to that school of anthropologists, force of Mr. Pritchard's line of argument, in attributing its singular form to art alone, which form may be varied at pleasure.

who maintain the distinct origin of the races of man and their essential differences. Such a doctrine would be quite contrary to the Zoological Philosophy he has adopted. This is displayed in another passage, which may be said to lessen the value of all his preceding remarks upon radical diversity, if we do not mistake its meaning. The passage to which we refer is the following. "I believe, therefore, that the numerous intermediate forms, between the Polynesian and Papuan, that occur among the countless islands of the Pacific, are not merely the result of a mixture of these races, but are, to some extent, truly intermediate or transitional; and that the brown and the black, the Papuan, the natives of Gilolo and Ceram, the Fijian, the inhabitants of the Sandwich Islands and those of New Zealand, are all varying forms of one great Oceanic or Polynesian race." (II, 280).*

Upon another subject of great importance to anthropologists, Mr. Wallace has been induced to say a few words in an appendix entitled "Crania." This appendix is itself an evidence of the author's acute analytical powers. It is introduced by the remark, that "a few years ago it was thought that the study of crania offered the only sure basis of a classification of man." In the infancy of anthropological science such an impression might probably have been entertained. More recently, the opinion has been growing that man, above all other animals, must be taken as a whole, both physically and mentally, and studied in his peculiarities, in order to classify his various and different races with satisfaction. Still, this is far from sufficiently justifying Mr. Wallace's further assertion that "now the opinion is beginning to gain ground, that for the special purpose of classification crania are of very little value." Man is more especially distinguished from all other animals by the great diversity and extent of his intellectual and moral faculties. He is a psychozoön. These peculiarities rest upon the organisation of his brain. This had led that most eminent zoologist, Professor Owen, to place him in a special subclass *Archen-cephala*. And the different families of man are marked by nothing more characteristically than their differences of mental and moral development, or their civilisation in one of the senses in which that term is applied. This view is strikingly confirmed by Mr. Wallace's own observations, who discriminates the remarkable races of people

* In the last chapter of Mr. Wallace's work, *On the Races of Man in the Malay Archipelago*, there is an admirable epitomised contrast between the two distinct races, the Malay and the so-called Papuan, which is quite unequalled among such graphic "sketches." Mr. Pritchard had previously perceived such a contrast between his Papuans and Polynesian Malays, without, however, making the attempt to delineate it in so elaborate a manner. (*Polynesian Reminiscences*, p. 377.)

he met with, chiefly by their mental peculiarities. Hence the cerebral organisation may be taken as the truest epitome of man, and the index of the place which any particular race (for each race has a series of mental qualities which runs through the whole race with tolerable constancy and uniformity) of mankind occupies in the natural system. This is undeniable. The great difficulty is in ascertaining and appreciating the peculiar cerebral organisation of each race of man. Even if the brain itself could be subjected to the closest anatomical scrutiny, its physiology is at present so unsettled that the results would be doubtful and uncertain. There need be no hesitation in allowing that the skull is an imperfect representative of the peculiarities which each race of man presents. Still, if his most essential differences from other races exist in his cerebral organisation, his skull will probably be allowed to be the most patent and stable image of these diversities. This is about as much as Blumenbach claimed for the cranium.* He did not arrange human races exclusively upon the forms of their skulls. He also included the structure of the body, the skin, and the hair in the definitions of his varieties of man. It was the late Professor Retzius who simplified the arrangement, and based it upon the skull alone. That every other portion of man's physical organisation should be studied, and all the peculiarities observed and described, is as essential for the classification of man as it is for the classification of any other animal. For it must be recollected that this is the practice among naturalists. They may place the teeth, or the organisation of the limbs, etc., as occupying the first place in the classification of the mammalia, yet they constantly find that they are compelled to embrace other structures and peculiarities, not excluding even the habits of animals. Classification ought not to be regarded as so perfect and complete in all the lower animals, and only uncertain in man. Such is far from being the case, and probably always may be. The creation was not made for systematists to arrange and classify. This was not the purpose of the creation. No system yet invented has been sufficiently comprehensive to embrace all the endless divergencies and deviations of nature. It may be safely said that in no classification of human races which is worth the name, can the cranium be left out. On the contrary it must always occupy *the principal place*.

Other mammalia have been classified by their teeth and the forms of their extremities. The teeth of different races of men differ essentially, still, as all races of men live on the whole upon pretty much the same kind of food, all partake of both animal and vegetable diet, there are none of those prominent and obvious differences in their

* *Decas*, i, p. 5.

dentition, such as present themselves among other mammalia as a class. The differences are almost wholly differences of degree only. The extremities again among the different human races vary materially, but not so essentially in their structure as to enable a systematist to classify the races by the differences of that wonderful instrument the hand, or by those of the feet. It was of these organs that Professor Owen once wrote: "The foot by which we stand and walk erect, the hand which so liberated, can apply its matchless structure to do the biddings of a high intelligence, and the organ itself of that intelligence, are severally structures peculiar to and characteristic of the human kind."

In conclusion, it may merely be said, that, unless there are some essential differences in the organisation of the brain, which probably may always elude human scrutiny, there is no more certain means of classifying the different races of man than by taking the whole of his organisation into account, with colour and form, and, especially, primarily and chiefly, his cranium, the form and dimensions of his skull, and his mental and moral faculties. The gross weight of the brain affords some of the most important and most valuable criteria, which *can never be overlooked*, but must be studied and determined by many future labourers for years to come, still, even these materials cannot be employed as so ready a key as might be desired. Partly from the wide range of individual diversities, or "individual varieties" which present themselves in all races, pointed out so clearly by Mr. Wallace, it will be requisite to derive our averages from a much larger number of observations than have hitherto been made. Hence the futility of many recent remarks made upon individual skulls. The skull and the brain will still always remain the truest bases of the classification of human races. And it ought not to be overlooked that all the most eminent craniologists, who had formed the highest estimate of the value of the skull in the natural history of man, as Blumenbach, Retzius, and Van der Hoeven, were equally, if not still more distinguished as comparative anatomists and naturalists.

J. B. D.

Anthropological News.

PROFESSOR HUXLEY ON POLITICAL ETHNOLOGY.

YESTERDAY evening Professor Huxley delivered a lecture on "The Forefathers and Forerunners of the English People," being the second of a series of "Sunday Evenings for the People" provided by the National Sunday League. The Professor's main object appeared to be to combat the notion that any political weight is properly to be attached to the distinction between the Celtic and Anglo-Saxon races. He said—

Of late years ethnology, the science which is concerned with the natural history of man, has had a good deal to do with practical politics. A vague though powerful sentiment has become developed in favour of the determination of political by natural relationships. There seems to be a tacit assumption that men ought to associate themselves according to their natural kinships; and that all barriers, natural or artificial, should be broken down which either separate men of one blood from coalescing into a political entity or, on the other hand, bind together into one nation those who are of different blood.

Panslavism, the aspirations after German unity and Italian unity, the talk about the Latin as contradistinguished from the Germanic or Slavonic nations, are so many practical shapes of this belief; and the advocates of these several views, so far as they are consistent and logical (which, perhaps, is not very far), appeal to ethnology to bear them out. Among our own people the nationality doctrine takes a shape which is painfully familiar to every one who attends to the course of political events. I mean the antagonism of the Celt and the Teuton, or Anglo-Saxon, most conspicuously represented by the Irish and the English constituents of the population of our islands.

A leading article on the affairs of Ireland in any popular English paper is pretty certain to contain some allusion to the Celt and his assumed peculiarities. If the writer means to be civil, the Celt is taken to be a charming person, full of wit and vivacity and kindliness, but, unfortunately, thoughtless, impetuous, and unstable, and having standards of right and wrong so different from those of the Anglo-Saxon that it would be absurd, not to say cruel, to treat him in the same way; or if the instructor of the public is angry, he talks of the Celt as if he were a kind of savage, out of whom no good ever has come or ever will come, and whose proper fate is to be kept as a hewer of wood and a drawer of water for his Anglo-Saxon master. This is the picture of the lion by the man. Any Irish national paper will supply you with the picture of the man by the lion. Here, again, according to the temper of the moment, the portrait of the Anglo-Saxon varies—from a stolid, good-natured kind of fellow, whose main fault is that he is incapable of comprehending the Celtic nature and aspirations, down to the well-known "base, brutal, and bloody, Saxon," with whose features that great limner, the late Daniel O'Connell, made us all so familiar. Nor are the ethnological assumptions involved in these views of the antagonism of the Celt and the Teuton confined to mere popular scribblers or demagogues. Grave and able disputants dealing with such a problem as the Irish land question have much

to say about the necessity of respecting Celtic peculiarities, and take their countrymen seriously to task for their narrowness in supposing that what is good for Teutonic is good for Celtic races of mankind.

Now this is neither the time nor the place for political discussion. I do not propose to express an opinion, one way or another, about Irish affairs or Celtic nationality. The subject which I purpose to deal with lies much more within my own province. I propose to inquire what foundation there is for these ethnological assumptions of the politician. Who are the Celts? Who are the Teutons? What sort of grounds are afforded by scientific investigation for the belief that these two stocks of mankind are so different as to require different political institutions? And supposing such grounds to exist, are the Celtic and the Teutonic stocks among us so distinctly separable that it is practicable to make such distinctions between them? Let us try to deal with these questions in succession.

At the present moment, the languages which are spoken by the natives of these islands belong to two very different groups. There is, on the one hand, the English group, represented by a great variety of dialects—the lowland Scotch, the Suffolk, and the Dorset dialects, for example, being so different that the speakers of each might have a good deal of difficulty in understanding one another. On the other hand, there is the Celtic group—comprising the Cymric spoken in Wales, and formerly in Cornwall, and the Gaelic spoken in the highlands of Scotland, the Isle of Man, and Ireland. The speakers of Cymric and Gaelic are not intelligible to one another. They are like French and Italian, totally distinct, though allied, languages. We call the people who speak Cymric and Gaelic Celts, while the English-speaking population is roughly called Anglo-Saxon, except, so far as we have reason to believe, that it comprises people who formerly spoke Celtic tongues.

But here, to begin with, is a plain source of confusion. Physical, mental, and moral peculiarities go with blood, and not with language. In the United States, the negroes have spoken English for generations, but no one on that ground would call them Englishmen, or expect them to differ physically, mentally, or morally from other negroes. And hence, assuming in the first place that we are justified in calling all speakers of Celtic dialects Celts; and assuming, in the second place, that these Celts are a different stock from the Anglo-Saxons; our first business, before these assumptions can bear any practical fruit, is to ascertain what part of the present population of these islands is Celtic by blood in addition to that part which still speaks Cymric or Gaelic. This is a very difficult inquiry, and has resulted, as yet, in more uncertainties than certainties. I will put before you those results which, to the best of my knowledge and belief, may be depended upon.

At the time of Caesar's invasion, now nearly 2,000 years ago, there is every reason to believe that the population of Britain, from Land's End to John o' Groat's House, spoke Cymric dialects, while the inhabitants of Ireland all spoke Gaelic. The whole population of these islands, therefore, so far as their language is concerned, was Celtic, but the Britons belonged to the Cymric division, and the Hibernians to the Gaelic division. The English language did not exist, and there is no evidence that any Teutonic dialect was spoken within our coasts. The Romans, as you know, never entered Ireland, but they held Britain for four centuries. England is full of the remains of their wonderful works, and has much more to show as the result of the Roman occupation than India would exhibit of ours if we left that country. Nevertheless, the Roman blood and Roman language seem to have made no more impression

on the ancient British people than the English blood and language have on the Hindoos. For my present purpose, therefore, their influence may be neglected. When the Romans evacuated Britain the Cymric Celts were attacked on two sides—on the north by the Scots and the Picts, on the east and south by the Angles and Saxons. The Scots were Gaelic-speaking Irish, who speedily won a foothold in the highlands, and have remained there ever since. But though they subjugated, and probably in a great measure destroyed, the Cymri, who were their predecessors, they only substituted one Celtic population for another. Who the Picts were, and whence they came, no one knows with certainty; but the balance of evidence to my mind is in favour of their being a Teutonic population, derived either from Scandinavia or North Germany.

If they were a Teutonic population, they harried and ravaged all Scotland north of the Firths of Forth and Clyde so effectually, in conjunction with their allies, the Scots, that the Celtic element in Caithness, Sutherland, and the east coast of Scotland, must have been practically abolished.

Leaving the Picts aside, however, it is certain that for something like five hundred years these islands were encircled by a sort of fiery girdle of Teutonic invaders, Angles, Saxons, Jutes, Danes, and Norsemen—who sometimes entered into alliances with the Celts; but more frequently made war upon them with indescribable ferocity, and eventually gained fixed possessions in all parts of Britain and Ireland.

Upon the eastern and south-eastern coast of Britain, which was most exposed to the invaders, the Celts seem to have been absolutely exterminated over vast districts—a Celtic name of a river or a hill being all that is left to show that they once existed. But as, in the slow progress of centuries, the Teutonic conquests were pushed farther and farther westward, the antagonism of savagery and civilisation, of paganism and Christianity, ceased to exist. The Teuton was content to dominate instead of exterminating, and in the western parts of England and Lowland Scotland, as well as in Wales and the Highlands, the change of blood effected by the Saxon and Danish conquests has been, on the whole, insignificant. One is apt to forget that a couple of centuries ago there was as little English spoken in Cornwall as there now is in Wales, and that not only Cornish men but Devonshire men are as little Anglo-Saxons as Northumbrians are Welsh. The Norman Conquest is hardly worth mentioning from an ethnological point of view. What new blood the Normans introduced was Celtic as well as Teutonic. They and their language have alike been smothered in the English nationality, which, from the facts which have been stated, it is simply absurd to call Anglo-Saxon.

Let us now turn to Ireland. The study of the so-called history of that country before the Norman invasion in the twelfth century is not a hopeful undertaking for the searcher after fact, but some points are clear. It is certain, for example, that the Norsemen and the Danes had an immense deal of intercourse—sometimes friendly, sometimes very much the reverse—with Ireland. Burnt Njal, the hero of the wonderful Icelandic Saga, which Dr. Dasent has made accessible to all of us, bears, like many of his compatriots, an Irish name. It is, in fact, the Norse representative of the Irish O'Neil. And Dr. Dasent tells me that a lively slave trade was carried on for centuries between Scandinavia and Ireland. Burnt Njal's Saga tells of Icelanders who took an active share in Irish wars. We know that Norse chiefs long ruled one part of the country, and that Danes occupied all the chief mari-

time towns. It is inconceivable that all these conquests should have taken place without a large infusion of Teutonic blood among the Irish people.

Then came the Norman conquest, and the spread of Normans and Englishmen among the landholders of the country, by intermarriage, force, or fraud. The English policy of those days was to set up an England in Ireland which should be strong enough to keep the native Irish in check, but weak enough to depend on the support and execute the will of the English Government. The practical result was, firstly, a constant condition of civil war and anarchy; and, secondly, the forcing of all the Norman and English who had intermarried with the Irish into identifying themselves with the Celts in name and language, and becoming the leaders of every so-called national movement. From these causes, the state of Ireland was bad enough under the Plantagenets; but when the Reformation came the Irish as a body, and without distinction of Teutonic or Celtic elements, declined to have anything to do with it, and the antagonism of religion was added to other antagonisms. From the time of Elizabeth to that of Cromwell, the country was devastated by the most ferocious and savage warfare, until, in the middle of the seventeenth century, it is probable that the population of Ireland was reduced to less than a million.

Ireland was a terrible thorn in the sides of the statesmen of the Commonwealth. They sent Cromwell over, and he dealt with the Irish at Drogheda and elsewhere in such fashion that to this day his name remains the symbol of ruthless cruelty in the mind of the Irish peasant. If you see an old ruin, it is Cromwell who destroyed it; and his heaviest malediction is the curse of Cromwell. I believe this is rather hard upon the Lord Protector, who was a merciful man enough when he had his own way; but whosoever the responsibility may be, it is certain that Ireland was dealt with by the Puritans as no country has been dealt with in civilised times. If you look into the records of that period, you will find that they "sought the Lord" a good deal about it, and the result of their seekings was this. They formed what we should now call a joint-stock company, with limited liability, for the conquest of Ireland—who were called the "Adventurers." Every adventurer was to receive land, proportioned to the stock invested, when Ireland was conquered. Well, Cromwell and Ireton between them not only conquered but crushed Ireland, so far as she was Catholic. Then the Government divided the land—all Ireland except Connaught—into parcels, which were allotted partly to the adventurers and partly to the army, and offered the pre-existing Catholic population, no matter whether it was Teutonic or Celtic in blood, the choice of two alternatives—emigration into Connaught or beyond the seas. It is computed that some forty thousand able-bodied men were drafted off into the armies of foreign sovereigns, who rejoiced to have their services, and inflicted many a blow on England by their help. Those who remained—old, young, rich, and poor—were ordered in the late autumn to leave their homes and their crops, and betake themselves to the wilds and wastes of Connaught. Suppose the first Napoleon had successfully invaded England, and that about August he had ordered all the Protestants in England east of the Severn and north of the Dee to give up their land to French Catholics, and take themselves off to Cornwall and Wales, he would have performed a feat exactly comparable to the so-called Cromwellian settlement of Ireland. It is true that the laws of nature, more merciful than those of man, prevented the complete carrying out of the orders of the Parliament. The English superseded the old proprietors

found that land without labourers was almost as valueless a present as a steam-engine without coal. Hence many of the peasantry were allowed to remain, and many were brought back from Connaught. But the invaders remained as the dominant caste, and in the north as the bulk of the population. And a large part of Ireland has thus been as completely Teutonised by the Lowland Scotch and the eastern English as these people were themselves Teutonised by the Saxon and Norse invasions.

If one wishes to think of a representative Irishman, the image of the "Tipperary Boy," with all his merits and all his faults, involuntarily presents itself to those who have known Irishmen. But I believe that I am affirming no more than there is warranty for, if I declare that a native of Tipperary is just as much or as little an Anglo-Saxon as a native of Devonshire. And, if you want to know why a Tipperary man occasionally "tumbles" his landlord, and a Devonshire man does not, you must seek the cause of the difference in something else than in the presence of Celtic blood in the one and not in the other.

To sum up, there is full evidence to prove that in Ireland as well as in Britain the present population is made up of two parties—the one primitive, so far as history goes, and speaking a Celtic tongue; the other, secondary and intrusive, and speaking a Teutonic tongue.

We have absolutely no knowledge of the relative proportions of these two parties in England and in Ireland; but it is quite possible, and I think probable, that Ireland, as a whole, contains less Teutonic blood than the eastern half of England, and more than the western half. Thus, assuming that Celtic speech and Teutonic speech are making two separate groups or races of mankind, I absolutely deny that the past affords any reason for dealing with the people of Ireland differently from that which may be found to answer with the people of Devonshire, or *vice versa*. And, if this is true, I think that the sooner we leave off drawing political distinctions between Celts and Saxons the better. But, as an ethnologist, I go further than this. I deny that there is sufficient proof of the existence of any difference whatever, except that of language, between Celt and Teuton. And my reason for this seeming paradox is the following. All the accounts which have been handed down to us by the Romans and the Greeks of the physical character of the Celtic speaking peoples known to them, and whom they called Gauls or Kelts, agree in ascribing to these terrible enemies of theirs a tall stature, fair hair of a reddish or yellow tinge, blue eyes, and fair skins. Such were the Gauls whom Cæsar conquered. Such were the Gauls who settled in Asia Minor, to whom the Epistle to the Galatians was written; such again were the Britons with whom Cæsar fought in North-eastern Britain. But all the ancient authors give exactly the same account of the physical character of the ancient Germans. There is not a doubt that they also were tall, blue-eyed, fair-haired, and fair-skinned; so, without doubt, were all the other Teutonic speaking people—whether Angles, Saxons, Danes, or Norsemen. So close was the physical resemblance of the Celts and the Teutons who, in the early days of the Roman Empire, inhabited the right and the left banks of the Rhine, that it was, and is, a matter of discussion whether particular rights belonged to the one division or the other—and we hear of Celtic tribes who tried to pass themselves off as of German origin—an imposture which could not have been attempted had any clear physical difference existed between the two stocks. I am unaware of any evidence of the existence of a dark-complexioned people speaking a Celtic dialect outside of Britannia (Ire-

land). But it is quite certain that, in the time of Tacitus, the Silures, who inhabited South Wales and Shropshire, were a dark-complexioned people; and, if Irish tradition is to be trusted for anything, we must credit its invariable assertion that only the chief Irish tribes—that of the Milesians—consisted of dark-haired, black-eyed people. And the commonest observation will convince you of the existence of a dark and a light stock, and of all the shades produced by their intermixture in Ireland and Britain at the present day. In Ireland, as in Britain, the dark stock predominates in the west and south, the fair in the east and north.

The same fact was observed in France long ago by William Milne-Edwards. The population of Eastern and Northern France is, on the whole, fair—that of Western and Southern France is, on the whole, dark. Turn to Cæsar, and you will find the reason of this singular distribution of complexion. To the south of the Garonne, he tells us, the population consisted of the Aquitani, who spoke a language which was not Celtic. This language is that which is now spoken by the people who inhabit the shores of the Bay of Biscay, and who are called Basques by foreigners. Hence the language is termed Basque, but they themselves call it Euskaldunac. It is a language which is the despair of philologists, inasmuch as it presents not a trace of affinity with any other European or Asiatic tongue. People speaking this language were the primitive inhabitants, not only of the south of France, but of Spain, whence they are called Iberians, and they have been traced as far west as Sicily. But in all directions they have been broken up by Celtic and other invasion; and wherever the Celts have penetrated, they have substituted their own language for the Euskaldunac, the mixed population—a Celtiberian—everywhere, so far as I know, speaking Celtic, and not Euskarian dialects. But, just as the Celtic language has been lost in Cornwall, while the proportion of Celtic blood remains unchanged, so the Iberian blood has remained, although all traces of the language may have been obliterated. I believe it is this Iberian blood which is the source of the so-called black Celts in Ireland and in Britain; and I may mention three circumstances, upon which I do not wish to lay too much weight, but which, so far as they go, are in favour of my hypothesis. The first is, that all Irish tradition derives the Milesians from Spain; the second is, that the termination *wri*, in the name of the Siluri, is characteristically Euskarian; the third is, that Tacitus expressly compares the Silures with the Aquitani. When the genealogy of the English people is thoroughly worked out, we find that our forefathers are reduced to two stocks—the one, a lightly made, short, dark-complexioned people, the Iberians who, as far as they can be traced back, talked Euskaldunac, a language which has not the least resemblance to any other spoken in Europe; the other, a tall, big-limbed, fair people, who, as far as we can trace them, have always talked some form or other of the languages of that great Aryan family to which German, Latin, Greek, Persian, and Sanskrit belong, and of which the Celtic tongues are outlying members. In everything which constitutes a race, these Aryan or Celtic and Teutonic nations are of one race. In every particular by which races of mankind differ, the Iberians and the Aryans are of different races.

Thus English political ethnology offers two problems:—1. Is there any evidence to show that the Iberians and the Aryans differ in their capacity for civilisation, or in their intellectual and moral powers? All I can say is, that I know of none. Whether in Greece or Rome, in modern Italy, France, Germany, or England, the dark stock and the light have run neck and neck

together. 2. Is there any evidence to show that there is what may be called a political difference between the Celtic Aryan and the Germanic Aryan? I must say again that I can find none. And one of the keenest observers who ever lived, and who had the opportunity of comparing the Celt and the German side by side—I mean Julius Cæsar—tells us especially that the Gauls in former days were better men than the Germans—that they had been corrupted by contact with civilisation, and that even in his day the races who held the Black Forest in possession were the equals of the Germans in frugality, hardiness, and every virtue of man or warrior. Put side by side with this the picture of the Saxon when, England fairly won, he sank into the slothful enjoyment of his possessions; and after the Conquest fell so low that the invective of Giraldus Cambrensis against the Saxons of his day, as idle worthless fellows, cowards, and liars, fit only to be drudges and menials, reads just like an extract from an English or American leading article against the low Irish. Do not let what I have said mislead you into the notion that I disbelieve in the importance of race. I am a firm believer in blood, as every naturalist must be, and I entertain no doubt that our Iberic forefathers have contributed a something to the making of the modern Englishman totally distinct from the elements which he has inherited from his Aryan forefathers. But which is the Aryan element and which the Iberian I believe no man can tell, and he who affirms that any quality needful for this, that, or the other form of political organisation is present in the one and absent in the other, makes a statement which I believe to be as baseless in natural science as it is mischievous in politics. I say again that I believe in the immense influence of that fixed hereditary transmission which constitutes a race. I believe it just as I believe in the influence of ancestors upon children. But the character of a man depends in part upon the tendencies he brought with him into the world, and in part upon the circumstances to which he is subjected—sometimes one group of influence predominates, sometimes the other. And there is this further truth which lies within every one's observation—that by diligent and careful education you may help a child to be good and wise and keep it out of evil and folly. But the wisest education cannot ensure its being either good or wise; while, on the other hand, a few years of perverted ingenuity would suffice to convert the best child that ever lived into a monster of vice and wickedness. The like applies to those great children, nations and their rulers, who are their educators. The most a good government can do is to help its people to be wise and noble, and that mainly by clearing obstacles out of their way. But a thoroughly bad government can debauch and demoralise a people for generations, discouraging all that is good, cherishing all that is evil, until it is as impossible to discover the original nobleness of the stock, as it is to find truthfulness and self-restraint in a spoiled and demoralised child. Let Englishmen ponder these things. If what I have to say in a matter of science weighs with any man who has political power, I ask him to believe that the arguments about the difference between Anglo-Saxons and Celts are a mere sham and delusion. And the next time the Irish difficulty rises before him I ask him, in the first place to read Mr. Prendergast's book on the Cromwellian Settlement, and then to put before himself these plain questions:—Firstly, Are the essentially Celtic people of Devonshire and Cornwall orderly, contented, industrious Englishmen, or are they not? And, secondly, is there the smallest probability that the folk who sang, "And shall Trelawney die?" would have been what they are if they had been dealt with as the people of

Tipperary were by our pious Puritan ancestors? And if he answers the first question in the affirmative, and the second in the negative, as he certainly will, he will have fulfilled Dr. Johnson's condition for dealing with all great questions—"Sir, first clear your mind of cant."—*Pall Mall Gazette*, Jan. 10.

PROFESSOR HUXLEY'S LAST NEW THEORY.

To the Editor of the Pall Mall Gazette.

Sir,—Even Professor Huxley's enemies, if he has any, must admit that he is a very able man, and that his energy is, to say the least, quite equal to his judgment. If he has a fault, it is, perhaps, that, like Cæsar, he is ambitious. We all know what Sydney Smith said of Dr. Whewell:—"Science is his forte, but omniscience is his foible;" perhaps his playful wit would have passed somewhat the same kind of judgment, and with the same justice, on our ubiquitous Professor. He might have said, perhaps, that cutting up monkeys was his forte, and cutting up men was his foible. A little while ago he ran amuck at the Comtists, then he attacked the mathematicians, now he has undertaken to prove against all comers that there is no difference whatever, except in language, between the Teuton and the Celt. At the last meeting of the British Association, Professor Sylvester took up the cudgels on behalf of the mathematicians very successfully, and if there were among our ethnologists any one as courageous and as competent as the Woolwich Professor he might possibly gain at the next meeting of the British Association as complete a victory. My ambition is of a much humbler kind. I only wish, with your permission, to be allowed to question one very decided statement which Professor Huxley repeats with much emphasis more than once in the lecture you reported on Monday, and briefly to mention a few facts, in arrest, if I may so say, of judgment.

Professor Huxley asserts that "Devonshire men are as little Anglo-Saxons as Northumbrians are Welsh; and again he declares that a native of Tipperary is just as much, or as little, an Anglo-Saxon as a native of Devonshire."

1. As a matter of history. It is nearly 1,000 years since Athelstan drove the Cornish men, "Cornwallenses," out of Exeter, and forced them to retire beyond the Tamar. Lappenberg thinks it probable that there were some Saxon inhabitants in Exeter in the time of the Romans, and possibly even before.

2. Geography. The Rev. Isaac Taylor has made "An analysis of the names of villages, hamlets, hills, woods, valleys, &c.," in Devonshire and several other counties, and he finds that the proportion of the Anglo-Saxon names to Celtic in Devonshire is as sixty-five to thirty-two, or more than two to one; in Ireland the proportion is nineteen to eighty, less than one to four; and in Cornwall it is nearly the same. Now as these Anglo-Saxon names must have been given by Anglo-Saxon men, what has become of their descendants?

3. Surnames. If we apply the old and approved test

"By Tre, Pol, Ros, and Pen
Ye shall know the Cornish men."

to the two counties of Devonshire and Cornwall, we find these Celtic prefixes still everywhere predominant in the one county, and considering their relative position, strangely uncommon in the other. So among Christian names, the Celtic Jennifer (Guinever) is still used in Cornwall, and the Teu-

tonic Herman (Arminius) in Devon. If we run through the names of the principal "Devonshire worthies," we find they are all, without a single exception, peculiarly and undeniably Saxon:—Raleigh, Drake, Hooker, Churchill (Duke of Marlborough), Reynolds, Gifford, Coleridge, Northcote, Eastlake, Turner (Turner was not born in Devon). It would be curious to compare this list with one similar of the great men born in Tipperary; but it unfortunately happens that I am not acquainted with their names. If Professor Huxley would employ some rare moment of leisure in arranging the names of all the great men born in Ireland in two parallel columns, one comprising those of Scotch or English extraction, the other the undeniably Irish, he would perhaps be a little surprised at their relative value and length.

4. Dialect. It is strange that Professor Huxley, "speaking as an ethnologist," does not seem to be aware that there is such a thing as a Devonshire dialect (or an "Exmoor scolding"), and that it is peculiarly, I may say wonderfully, Saxon. I have repeatedly heard "leery" for empty, "drang" for press, "fang" for take, "rin" for run, "too" (zu) for at, etc. Even the personal pronouns "er" and "ihn" (for he and him) are still in such common use among the peasantry as to have given rise to the Cockney joke, that in Devonshire they call everything *her* except a tomcat. These examples—and many more might be given—are sufficient to prove that the language was spoken in Devon in Anglo-Saxon times, and not imported ready-made in its later form, as was the case in Ireland.

5. It has been hitherto believed, and the belief may possibly survive Professor Huxley's dictum, that there is a wide difference between the Teutonic character (as seen in the Germans) on the one side, and the Celtic character (as seen in the French and the pure Irish) on the other; and that the English character stands midway, or nearly midway, between the two, with more enterprise and *esprit* than the one, more love of law and order than the other. Now I believe any competent judge will admit that the Devonshire man approaches more nearly than even the average Englishman to the recognised Teutonic type.

It has also been believed in the Prehuxleian period that the Celtic race is very far from sharing that passionate love of the sea which distinguishes the German (especially in the Scandinavian branch) wherever he lives upon the coast. Now, though Ireland is surrounded by the ocean (it was no Englishman who called it "the melancholy ocean"), though no place in the interior is more than forty miles from the coast, I venture to think it would be found that the number of sailors which all Ireland supplies to the navy is less than what is furnished by the county of Devonshire alone. In the census of 1851, the latest which I have at hand, the number of Irish in the navy was only 2,572, just one-tenth of the whole effective force. In the same year the number of Irish in the army was 51,499, out of a total of 142,870; or considerably more than one-third.

Professor Huxley quotes Cæsar as a witness, but hardly, I think, with that fairness for which he is usually distinguished. He tells us what Cæsar had *heard* as to the comparative merits of Gauls and Germans at some long anterior period (according to Long, 300 years B.C.), but he does not tell us what this "keen observer" *saw*. He does not tell us that Cæsar draws a broad distinction—one may almost say a contrast—between the Gauls and Germans as he *knew* them. He does not tell us that Cæsar paints the Celt of his day in "living characters," which even now, after the lapse of nearly 2,000 years,

are most curiously applicable even in the smallest particular to the Celtic population of Ireland, and still utterly inapplicable to the Germans and their kindred. The Celts, he says, are quick and impulsive ("ut sunt Gallorum subita et repentina consilia"); fond of fighting, but wanting in steadiness and endurance ("ut ad bella suscipienda Gallorum alacer et promptus est animus, sic mollis ac minime resistens ad calamitates perferendas"); fickle, unstable, and fond of novelty ("infirmiorem Gallorum veritas, quod sunt in consiliis capiendis mobiles et novis rebus plerumque student"); much given to factions, not only in every State, but in every district and village, and almost in every house ("in Gallia non solum in omnibus civitatibus atque in omnibus pagis et partibus sed pene etiam in singulis domibus factiones sunt"); devoted to their religious observances ("admodum dedita religionibus"); they are completely in the power of their priests, who settle almost all controversies, and whenever a murder or any great crime is committed, etc., the whole matter is submitted to them ("magno sunt apud eos honore, nam fere de omnibus controversiis publicis privatisque constituunt, et si quod est admissum facinus, si cades facta . . . iidem decernunt"); the priests enforce their judgments by excommunication, and those excommunicated are considered impious; no one will associate with them; they forfeit all rights, offices, etc. ("sacrificiis interdicunt; quibus ita est interdictum ut numero impiorum et sceleratorum habentur; ab iis omnes discedunt, neque iis petentibus jus redditur"), etc.; their funerals are costly, with as much display as their means will allow ("funera sunt pro cultu Gallorum magna et sumptuosa"); one of their greatest chiefs feared, or pretended that he feared, the sea ("quod insuetus navigandi mare timeret"); they kept up their courage by shouting and howling ("clamore et ululatu suorum animos confirmabant").

Now, I would ask any Englishman who has lived in the Celtic part of Ireland whether this "keen observer," if he had lived in our day, could have written a description of the actual Irish Celt more exact or more exhaustive than this, and I would ask any Irishman who has ever lived in Devonshire whether he could recognise any one of those traits in the Devonshire peasant.

After describing the manners and customs of the Gauls, Cæsar turns to those of the Germans, which he expressly says were widely different. A few of the German characteristics he describes may possibly be discovered still in some of their descendants: their aversion to priestcraft, their love of field sports, their contempt for hardship and danger, and their very decided liking for animal food.

Next follows, curiously enough, the passage Mr. Huxley has quoted. And here it deserves to be noted that Cæsar does not say there had ever been a time when the Gauls resembled the Germans, but that once upon a time ("fuit antea tempus") the difference between them had been in quite another direction.

Mr. Huxley feels warmly what he says boldly. Men of this temperament are not easily moved to retract an opinion once expressed. But I hope the facts here adduced, and the arguments honestly, however imperfectly, urged, may be held by some of your readers to prove that the honour of ranking with "the Tipperary boys" is as little deserved as it is desired by one who has the privilege to subscribe himself, like your obedient servant,

A DEVONSHIRE MAN.

PROFESSOR HUXLEY ON CELTS AND TEUTONS.

To the Editor of the Pall Mall Gazette.

SIR,—Your correspondent, "A Devonshire Man," is good enough to say of me that "cutting up monkeys is his forte, and cutting up men is his foible." With your permission, I propose to cut up "A Devonshire Man;" but I leave it to the public to judge whether, when so employed, my occupation is to be referred to the former or to the latter category.

"I. As a matter of history," and "II. Geography."—Lappenberg and the Rev. Isaac Taylor are undoubtedly valuable authorities; but most persons who are interested in early English history have made it their business, as it has been their pleasure, to acquaint themselves with Mr. Freeman's remarkable history of the "Norman Conquest of England." If "A Devonshire Man" has not read the first volume of that history he would have done well to hold his peace on such questions as that under discussion. If he has read it, why has he ignored the following weighty passage, which gives the deliberate opinion of a most competent judge upon the very question at issue?—

"During a space of three hundred years the process of West Saxon conquest still went on; step by step the English frontier advanced from the Axe to the Parret, from the Parret to the Tamar; Taunton at one stage, Exeter at another, were border fortresses against the Welsh enemy; step by step the old Cornish kingdom shrank up before the conquerors, till at last no portion of the land south of the Bristol Channel was subject to a British Sovereign. This was conquest, and, no doubt, fearful and desolating conquest; but it was no longer conquest which offered the dreadful alternative of death, banishment, or personal slavery. The Christian Welsh could now sit down as subjects of the Christian Saxon. The Welshman was acknowledged as a man and a citizen; he was put under the protection of the law; he could hold landed property; his blood had its price, and his oath had its ascertained value. The value set on his life and on his oath shows that he was not yet looked on as the equal of the conquering race; but the Welshman within the West Saxon border was no longer a wild beast, an enemy, or a slave, but a fellow-citizen living under the King's peace.

"There can be no doubt that the great peninsula stretching from the Axe to the Land's End was, and still is, largely inhabited by men who are only naturalised Englishmen, descendants of the Welsh inhabitants, who gradually lost their distinctive language, and became merged in the general mass of their conquerors. In fact, the extinction of the Cornish language in modern Cornwall within comparatively recent times, was only the last stage of a process which began with the conquests of Cenweahl, in the seventh century. The Celtic element can be traced from the Axe, the last heathen frontier, to the extremities of Cornwall, of course increasing in amount as we reach the lands which were more recently conquered, and therefore less perfectly Teutonised. Devonshire is less Celtic than Cornwall, and Somersetshire is less Celtic than Devonshire; but not one of the three counties can be called a pure Teutonic land, like Kent or Norfolk."—*The History of the Norman Conquest of England*, vol. i, p. 34.

With Mr. Freeman's authority; that of the late Sir Francis Palgrave, in his "Rise of the English Commonwealth;" and, better still, the "Laws of Ine," which every one who will take the trouble may consult for himself in Thorpe's well-known collection, published thirty years ago, in my favour, I see no reason to retract the opinion I have expressed, that the application

of the term "Anglo-Saxon" to the population of Devonshire, as a whole, is absurd.

"III and IV."—I fail to perceive the bearing of the enumeration of proper names, or the discussion of dialect on the question. If I had denied that there has been a strong infusion of Anglo-Saxon blood in Devonshire; or if, I had asserted that the Anglo-Saxons have not been the dominant stock since their invasion of Damnonia, "A Devonshire Man's" line of argument would be intelligible. But, as it is essential to my parallel between Devonshire and Tipperary that this large infusion should have taken place, and that the Anglo-Saxon element should have been dominant, I am perplexed by the Devonian dialectics.

"V."—Under this numeral follows a wonderful passage about "the Teutonic character (as seen in the Germans) on the one side, and the Celtic character (as seen in the French and the pure Irish) on the other."

"The Teutonic character (as seen in the Germans)."—Does "Germans" here include Scandinavians, or does it not? If it does, what is the "character" common to the Norseman, the Dane, and the Suabian?

"The Celtic character (as seen in the French and the pure Irish)."—Who are "the French"? French ethnologists imagine that there is a wonderful contrast between the typical forms of the inhabitants of France, on the two sides of a line drawn from Brittany to Nice. Does the Picard, the Provençal, or the Breton represent the French character? Or is it a new compound formed by the mixture of these discordant elements? And in the latter case how far can it be called Celtic? And "the pure Irish." Who, in the name of the Four Masters, are they? Are they the Milesians, or the Firbolgs, or the Cruithneach, or some diagonal between these three divergent stocks, known only to "A Devonshire Man"?

Finally, when you have caught your "Frenchman" and your "pure Irishman," and put them side by side, what resemblance is there between the two in physical, moral, or mental characteristics?

When your correspondent supplies intelligible and satisfactory answers to these very needful preliminary inquiries, it will be possible to discuss his dictum "That the English character stands midway, or nearly midway, between the two, with more enterprise and *esprit* than the one, more love of law and order than the other." At present I confess it sounds like a platitude, absorbed from a newspaper, and exhaled again, unchanged by even accidental contact with the reasoning faculty, at an agricultural dinner.

The "Devonshire Man's" statistics are excellent. I believe it is quite true that there are twenty times as many Irishmen in the army as in the navy; but I cannot help thinking that the facts that Plymouth, Portsmouth, Dover, Chatham, Sheerness, and Milford Haven, are in England and not in Ireland—that English merchant ships do not, for the most part, clear out of Irish ports—and that, while there is no great dockyard in Ireland, there are numerous recruiting-sergeants, may possibly have as much influence on this unequal distribution of Irish pugnacity as its Celtic lineage. The Spaniards and the Portuguese, again, have been reasonably good sailors, whether for fighting or exploring purposes, in their day. So have the Basques. But, assuredly, a great deal of the same blood runs in the veins of these people, and of those whom "A Devonshire Man" calls Celts.

In conclusion, as to Cæsar.—We all know pretty well what Cæsar says about the Gauls; and that which is well known "A Devonshire Man" has copied out for us at length. But the passage to which I alluded is one that

I cannot help thinking most people forget. And that particular passage "A Devonshire Man," "honestly however imperfectly," urging his argument, suppresses. I therefore trouble you with it:—

"Ac fuit antea tempus, cum Germanos Galli virtute superarent, ultro bella inferrent, propter hominum multitudinem agrique inopiam trans Rhenum colonias mitterent. Itaque ea quæ fertilissima sunt, Germaniæ loca circum Hercyniam silvam (quam Eratostheni et quibusdam Græcis fama notam esse video, quam illi Orcyniam appellant) Volcæ Tectosages occupaverunt atque ibi consederunt. Quæ gens *ad hoc tempus iis sedibus sese continet* summamque habet justitiæ et bellicæ laudis opinionem: *nunc quoque in eadem inopia, egestate, patientia, qua Germani, permanent, eodem victu et cultu corporis utuntur*; Gallis autem Provinciæ propinquitas et transmarinarum rerum notitia multa ad copiam atque usus largitur. *Paullatim assuefacti superari, multisque victi præliis, ne se quidem ipsi cum illis virtute comparant.*"

According to "A Devonshire Man," the following is a fair representation of the sense of this passage:—"And here it deserves to be noted that Cæsar does not say that there had ever been a time when the Gauls resembled the Germans, but that once upon a time (*"fuit antea tempus"*), the difference between them had been quite in another direction." As you observe, what Cæsar does say is, in brief—that, formerly, the Gauls were better men than the Germans, made war upon them, and threw colonies of their surplus population across the Rhine; that the Volcæ Tectosages, one of their tribes, settled about the Black Forest, and in Cæsar's time still held that region, being a people as frugal, patient, just, and warlike, as the Germans themselves. The Gauls of Gallia, on the other hand, corrupted by the influences of commerce and Roman civilisation, had gradually sunk into the low condition which Cæsar describes. But it is plain from Cæsar's words that he believed the Gauls to have been, primitively, just as good men as the Germans.

Whatever my "temperament" may be, Sir, no one can say that I have ever objected to hard hitting in fair and open controversy. "A Devonshire Man," with no object that I can discern except that of offence, twits me with the attack of my valued friend Professor Sylvester, at Exeter. That matter is not quite settled yet. Mr. Sylvester's arguments, and his well-won fame as a mathematical philosopher, alike demand respectful and patient consideration; and if, after such consideration of the difficult questions between us I find myself in the wrong, I shall surrender without a blush to such an open and loyal opponent.

I confess my feeling is other towards an adversary who hides himself behind the hedge of a pseudonym, to fire off his blunderbuss of platitudes and personalities at a man who has made a grave and public statement, on a matter concerning which he is entitled to be heard. And, while fresh from "tumbling" his man of science, "A Devonshire Man" seems to me to be inconsistent in so haughtily repudiating all kinship with a "Tipperary Boy."

I am, your obedient servant,

T. H. HUXLEY.

Athenæum Club, January 19th.

PROFESSOR HUXLEY ON CELT AND TEUTON.

To the Editor of the Pall Mall Gazette.

SIR,—I do not ask to occupy your space in order to reply to the personal

parts of Professor Huxley's very skilful, very cutting, and very characteristic letter; but I wish to draw attention to the fact that, while professing contempt for my arguments, Professor Huxley has tacitly adopted my conclusion. In his lecture, Professor Huxley had said "that not only *Cornish men but Devonshire men* are as little Anglo-Saxons as Northumbrians are Welsh." He declared "that a native of Tipperary is just as much, or as little, an *Anglo-Saxon as a native of Devonshire.*" He "absolutely denied that the past affords any reason for dealing with the people of Ireland differently from that which may be found to answer with the people of Devonshire." He calls "the people of Devon and Cornwall essentially Celtic."

In his letter to you, he sees fit to admit "that there is a strong infusion of Anglo-Saxon blood in Devonshire"; he even goes further, and allows "that the *Anglo-Saxons have been the dominant stock* since the invasion of Damnonia." Now, this is precisely the point which I endeavoured to prove, and Professor Huxley seems to me scarcely candid in endeavouring to substitute one set of statements for the other. Are the Welsh the "dominant stock" in Northumberland? or Anglo-Saxons the "dominant stock" in Tipperary? If Anglo-Saxons dominate in Devonshire, how is it essentially Celtic?

The weighty passage which Professor Huxley quotes from Mr. Freeman is, as might be expected, in accordance with Professor Huxley's amended views, and directly opposed to his original statements.

It was as early, we are told, as the seventh century that "the West Saxon conquest" began; the English steadily advanced, overpowering all resistance, till they paused for a time on the Tamar (which has ever since remained the western boundary of Devon); and, as the Welsh were not wanting in bravery, and had every incentive to fight, they could only have given way to overwhelming numbers. The extent to which one race eventually supplanted the other, after "this fearful and desolating fight", is a matter of inference rather than a matter of history. Professor Huxley says, in speaking of England at large, "we have absolutely no knowledge of the relative proportions of the two parties." I venture to think, for reasons already given, that the predominance of the Anglo-Saxon stock in Devonshire is still greater than Mr. Freeman seems to suppose. If you will allow me a little further space, I have an apology to make. Professor Huxley has a right to complain that my *concluding* remark on his argument touching the *Volcæ Tectosages* is by no means correct. It was the first passage in Cæsar to which I turned after reading his lecture, and I regret very much that I spoke from memory, when finishing my letter in a hurry, without referring again to the text.

Professor Huxley, to do him justice, has made the most of my mistake; but his charge of suppression is, to say the least, gratuitous, when the substance of the passage had been already printed in the *Pall Mall Gazette* a few days before, as cited by Professor Huxley himself.

On reading the passage again, with the benefit of Professor Huxley's explanation, the certainty of the wide inference built upon it seems to me open to question. What are the bare facts of the case? That a long time before—perhaps two or three hundred years—a colony of the Gauls had established themselves among the Germans, at some distance from their common boundary, the Rhine; that, at the time when Cæsar wrote, this colony differed considerably in character from the original stock. Now, is it not allowable to suggest that the Gallic colony, when completely cut off from

their base, when pressed "*egestate et inopia*," and constantly threatened by the hostile tribes around them, may have been *obliged*, "in the struggle for existence," to adopt the habits and imitate the customs of the hardy, warlike, and frugal people in the midst of whom they lived? Cæsar was undoubtedly a very keen observer, but even Cæsar could not see two hundred yards behind him, and the Gauls, his informants, may have been, like many another Celtic people, "*laudatores temporis acti*." We know the negro in Barbadoes differs widely from the negro at home; that the first English settlers in Ireland became, in a few generations, "*Hibernis ipsis hiberniores*"; that, in much less than three hundred years, the British settlers in America became something very different from, and, as they think, very much superior to, the effete race left behind them.

Professor Huxley asks me some questions. From the manner in which they are put, he can hardly expect them to be answered; but, if you can grant me the space, at the risk of another cutting up, I will do my best to reply.

In all large nations, there are minor varieties of character, corresponding with various commixtures of race; but in most nations which speak the same tongue there is a "*commune quoddam vinculum*," a certain general resemblance, amply sufficient to justify the popular ascription of a distinctive character to each. By "pure", I meant pretty much the same as Professor Huxley by "primitive", Irish; that is to say, the so-called Celtic population, however made up, whenever it contains no admixture of Scotch or English blood. By "French", I meant, *mutatis mutandis*, the same, excluding, of course, the Germans, Italians, and the Basques, who, taken altogether, are not, according to Berghaus, one-tenth of the whole. I am aware that, in speaking of national character, I enter on dangerous ground; nevertheless, I will venture to mention some "mental and moral characteristics" in which I believe modern French and modern Irish, so understood, will be found to agree.

At this very moment, the violence and rancour of the Fenian press and the Fenian abuse of representative government in Ireland are exactly paralleled in Paris. Your own correspondent, I think, speaks of the Fenian French.

If Spain has turned out good sailors, we must not forget the large infusion of Gothic blood into Spain; that "son of the Goth" is the admitted derivation of the Spaniard's proudest title, "*Hidalgo*."

Professor Huxley accuses me of using a "pseudonym"; if I had called myself an ethnologist or a man of science I could have seen some meaning in the charge. I have a full right to the name I choose to use. And, as I love my native county and admire the English race, I hope I may stand excused in endeavouring to prove myself something more than "a naturalised Englishman," as well as your most obedient servant,

A DEVONSHIRE MAN.

ANTHROPOLOGY AND POLITICS: KELTS AND SAXONS.

To the Editor of the Standard.

SIR,—The controversy excited by the publication of Professor Huxley's lecture on Celts and Saxons seems to be widening out and attracting more

and more attention, the *Saturday Review* and the *Spectator* having both joined in the fray. May I ask you to allow me also to put in an appearance.

The position of the dispute may be briefly summarised as follows :—Professor Huxley has stated himself to be, what we all knew him to be, a believer in race in its physical aspects; that is, he acknowledges the hereditary character of differences in stature, skull-form, and colour of hair and eyes; but, on the other hand, he seems somehow to doubt the hereditary transmission of differences of mental or moral constitution. At all events, he denies the influence of such hereditary differences on politics.

The "Saxon Correspondent" of the *Saturday Review* is equally hard to understand. While affecting to make light of race differences, he yet is "astounded" at the supposed discovery of Professor Huxley that the Iberians form an important race element in the British Isles—a discovery new to him, though as old as Tacitus, and as well known as Thurnam can make it.

Thirdly, comes in the "Devonshire Man", whose views are at least coherent so far as they go, and who makes out a tolerably good case, from history and philology, for the Saxonism of his compatriots, having rather the better of the professor so far, but not attempting to close with him on his favourite ground of physical characteristics.

My own opinions and observations on the Devonshire men appear in the current number of the *Anthropological Review*; but my present business is with Professor Huxley, or rather with the opinions he has propounded.

I have not space to say much about the foundations on which he builds these opinions. Some of them may, perhaps, be solid, though they differ from those accepted by most anthropologists. Thus, he disagrees with the French *savans*, to whose authority he nevertheless appeals in reckoning the short, sturdy, dark inhabitants of central France as Iberians, while the French call them Kelts or Galls. The Kelts of Huxley are the Kimri of Broca and Boudin and Edwards. He supposes the Milesians to have been Iberians, partly because, as he says, they were black-eyed and black-haired; though M'Firbis, the best authority (if anybody can be called a good authority on so uncertain and obsolete a question), said distinctly that the Milesians were "white of skin, brown of hair," and that the Firbolgs (usually, but doubtfully, considered to be Kelts) were black-haired. He thinks the Picts were Teutonic: it is an open question, but hardly anybody else thinks so now-a-days.

But the main questions are these three :

- A. Did the Kelts differ as a race from the ancient Germans?
- B. Do the Irish differ as a race from the English?
- C. May differences of race affect politics?

To all these questions I am forced to return other answers than those given by Professor Huxley.

A. If any of the old inhabitants of Gallia were Kelts, according to the professor's own interpretation, the Remi were so. Now, we possess portrait-figures almost certainly meant to represent Remians, on the invaluable monument of the Roman governor, Jovinus, preserved at Rheims. They are tall men, with long faces, and well-marked and somewhat sharp features, very like those of the modern Walloons or Gallovidians.

In Lubach's work on the Dutch are engravings of certain terra cotta heads of the Roman period, dug up near Xanten, in the Lower Rhine country. These resemble the modern Germans of the Lower Rhine, and are not far from being English in aspect. They differ much from the Remi, and cer-

tainly do not represent Italians. Who can doubt that we have in them images of the ancient Low Germans or Frankish types?

As for there having been no difference in complexion, etc., between Gauls and Germans: Firstly, the Gauls *raddled* their hair; secondly, Caligula, wishing to deceive the Roman populace with the semblance of a triumph over Germans, bought the tallest Gallic slaves and *died their hair*. I am almost ashamed to reproduce these hackneyed facts.

The ancient Kelts, then, differed physically from their ancestors of the Low Dutch, as the modern Walloons differ from the modern Hollanders and Westphalians; and so far the probability is that they were not of the same race.

b. Again, I maintain that the Irish, as a race, differ from the English. There may be much Danish blood in Waterford, much Anglo-Saxon blood in Kilkenny, and much Iberian blood in Connemara; but, on the whole, one type predominates in Ireland so decidedly as to be rightly called national; it is a type which most people, rightly or wrongly, call Keltic, which has a long, rather narrow, and low head, with prominent cheekbones, a peculiarly formed lower jaw, and often a prominent mouth, grey eyes, and darkish hair. Men of this type are distinguishable at once in most parts of England, and even of Devonshire, as readily as in Gascons or Swabians.

c. Most of us, without allowing the claims of phrenology and physiognomy to be called sciences, believe in a certain correspondence of physical with mental and moral characteristics. As the average Irishman differs from the average Englishman in the former, so we should expect him equally to differ in the latter respect; and, practically, we find that to be the fact. In short, the difference which was observed long ago—for the old Irish poet sang how “in dulness the creeping Saxon” excelled, but “in beauty and in amorousness the Gael”—is the difference, I presume, still existing; and it is reasonable to attribute the fact, in part, to his physical organisation. This being the case, is it “cant” or folly to say that the mental and moral peculiarities of large masses of citizens must of necessity have some effect on the course of politics?

I am, Sir, yours faithfully,

JOHN BEDDOE, M.D., President A.S.L.

Anthropological Society of London, 4, St. Martin's Place, W.C., Feb. 7.

RACE IN POLITICS: THE “CELT” AND THE “SAXON.”

To the Editor of the Standard.

SIR,—As the controversy about the races which inhabit the British Isles has to-day found a place in your columns, will you permit me to remind you that you favoured me in 1866 with a most flattering review of my work, entitled *The English and their Origin*, and to show my gratitude by asking a new favour? There are two or three points which have not been touched either by my friend, Dr. Beddoe, the President of the Anthropological Society, or by Professor Huxley, the President of the Ethnological Society, and which I trust you will think of sufficient importance to lay before the public.

The fact that there is a difference of opinion between the chiefs of two learned societies, affords some encouragement for the expression of any opinion whatsoever by those who, like myself, have no connection with either society; and I think I shall be able to show that Dr. Beddoe differs

from Professor Huxley rather in his details than in his principles. I was present at the delivery of Professor Huxley's lecture, and the impression on my mind certainly was not that he intended to deny the existence of mental and moral distinctions in various races of men, but that in the case of the English and Irish he could not perceive such distinctions. If this interpretation be correct, the great point of controversy between the two presidents resolves itself into a very simple question. This fairly stated is—Do Englishmen, on the average, display mental and moral characteristics similar to those displayed by Irishmen on the average, when the circumstances are similar?

Dr. Beddoe says nothing about circumstances, and Professor Huxley only predicts what Englishmen would do under similar circumstances to those of the Irish. Neither of them adduces facts on both sides. With your permission, I propose to do so, and to take the "agrarian outrage", with its concealment, as the crucial test to decide whether the best marked peculiarity of the Irish character is inherent in race or is the result of circumstances. I think I shall be able to demonstrate that it is the result of circumstances.

After the Norman conquest, and possibly even before it, in time of the Danes, the "hundred" was made responsible for certain offences committed within its limits, and the reason for this strange device was, that it was the custom of the English to favour all criminals who murdered one of the new settlers, and, if possible, to screen them from the law.

From the records of the English Exchequer, together with some other important documents preserved in the Public Record Office, but not searched by historians, it is possible to arrive at the number of murders committed per annum, and at the gain to the revenue both from murders and from concealments. The Frenchmen, as the Normans called themselves, suffered severely at the hands of the Englishmen. Out of a population reduced by continual wars, by the devastation of whole districts, and by many other causes, there were more than five hundred persons murdered in England alone every year, and concealment was a common offence many generations after the Norman conquest had to all appearance been completed. The English bowmen with whom Richard met Saladin had precisely the same feeling towards their "French" rulers as the Irishmen who sometimes fight battles for the English have towards the rulers sometimes called "Anglo-Saxons" or "Teutons." Professor Huxley has brought out in strong relief the policy of Cromwell towards the Irish, and told us *a priori* that had Englishmen suffered in like manner they would not have acted differently. It is seldom that an opinion can be verified, as I can show that this opinion has already been verified, not by the burning rhetoric of some partisan writer, but by the cold hard facts of the tax-collector, recorded without a suspicion of the purpose to which they might one day be applied.

I was certainly very much surprised to find Dr. Beddoe drawing the old distinction between the dulness of the "creeping Saxon" and the opposite characteristics of the soaring Gael. One would have thought that the eighteenth and nineteenth centuries, in which nearly all the greatest inventions have risen from England to illuminate the world, would at least have vindicated the Englishmen from the charge of dulness. If this is all that can be said to prove the radical difference between Englishmen and Irishmen, I sincerely trust that there is nothing to prevent us from regarding an Irishman as "a man and a brother."

The other points on which Dr. Beddoe joins issue with Professor Huxley are physical characteristics and the definition of terms. I may perhaps be prejudiced because Professor Huxley has done as I have done in finding fault with the old definitions, and because he has adopted my conclusions in regard to the non-Teutonic character of the English nation as a whole, but I am quite unable to follow Dr. Beddoe's argument when he says the Irish differ from the English in having long heads and darkish hair. I thought that if any one fact was established in the description of races it was that the English possess as a rule those very characteristics. I can hardly believe that Dr. Beddoe himself would seriously deny the fact.

I do therefore hope that we shall cease to regard the Irish either as angels soaring too high above us, or as an inferior race, somewhat like "niggers," and so to give them just cause of complaint.

I remain, Sir, your obedient servant,

New University Club, Feb. 10.

L. OWEN PIKE.

ANTHROPOLOGY AND POLITICS.—KELTS AND SAXONS.

To the Editor of the Standard.

SIR,—I observe in to-day's *Standard* a letter from Mr. L. O. Pike, who, referring to my own letter in your issue of the 10th, takes up the defence of Professor Huxley's position. He states that, whereas I say the typical Irishman has a long head and darkish hair, he has found the same characteristics in the English; and he implies that no physical difference has been shown to exist between the two.

Now, I did not base the physical distinction on the long head and dark hair of the Irish. These were only two of seven or eight features in the picture I drew of the average Irishman, which, again, was itself imperfect, because my intention was simply, by a rapid sketch, to call up a familiar image, but not to dwell on all its details. Hindus, negroes, and native Australians, are all long-headed and dark-haired, but few have hitherto ventured to assert that all these are alike in political capacity *inter se*, or to ourselves. Moreover, Englishmen are not, with my friend Mr. Pike's leave be it said, generally dark-haired, as that word is understood by most people. They are, on the whole, intermediate in colour of hair, as in so many other respects, between the generally fair Dutch, Frisians, and Danes, and the generally dark Welsh, Cornish and Irish. On this point I believe both my opponents will allow that I may speak with some authority. It is true that dark hair, and other non-Saxon (though not Irish) characteristics, do preponderate in several counties, of which Devon is one; and this is one of the few facts I can see that at all favour Professor Huxley's views.

For another curious point of physical divergence between the English and Irish, apparently dependent on blood or temperament and not on circumstances, I refer the reader to the *British Medical Journal* of the 5th inst., where he will find it stated by an excellent authority that a certain ocular disease follows up the latter people in all parts of the world, while the former remain almost untouched by it.

In the second place, Mr. Pike affirms that if the Irish peasant shoots his landlord in the reign of Victoria, the English peasant did much the same in that of William the Conqueror.

Secret assassination has in most countries and ages been the weapon of races or classes who have been oppressed, or have fancied themselves so, by a dominant caste. Under peculiar circumstances it has attained the proportions of a formidable system in Ireland, as something like it has done in Sheffield; but I fail to see in these facts any proof that the Sheffield grinder and the Irish cottier are of the same race.

Thirdly, Mr. Pike is scandalised at the idea that the English, the most inventive of people, are a "duller" race than the Irish. I must confess that I thought I should have had all the world on my side on that point. Is it really necessary to prove that the Irish peasant is quick-witted and eloquent, while the English clown is as heavy as he is industrious and plodding? Inventiveness is quite another affair. The Germans, whom Mr. Pike is fond of abusing for their stupidity, dispute with ourselves the credit of being the most inventive of nations.

I remain, Sir, yours faithfully,

JOHN BEDDOE, M.D.

Anthropological Society of London, 4, St. Martin's Place, February 14th.

A MAN half white and half black has arrived in New York from Arkansas. One entire side of his body is almost black as ebony, while the other side is of the pure Caucasian hue. There is no humbug about the man. He seems very intelligent, and is desirous of avoiding public observation.

EXTRAORDINARY RECOVERY AFTER SAW-WOUND OF THE SKULL AND BRAIN.—A case, almost incredible, of extensive wound of the skull by a circular saw, is recorded in the *Pacific Medical and Surgical Journal*, May 1869. It was under the care of Dr. C. A. Folsom. The patient was a man, forty years of age. The wound extended from just above the nose in front to the occipital protuberance behind, and measured nine inches. It was rather on the left side of the middle line, and passed (on measurement) a depth of three inches into the brain, and was thought to reach the base of the skull. The two halves of the skull fell apart more than an inch, and a tourniquet was applied round the head to hold them together. The brain-substance was not sensitive. The scalp-wound healed nearly by first intention. There were no symptoms of any sort. No medicine was given. In three weeks the man got up, in six weeks resumed his occupation, and has continued at it for five years. The saw was a large one, revolving very rapidly. The man scarcely felt the cut. There was no concussion, no shock to the brain.

IMMUNITY OF A MONKEY TO STRYCHNINE.—Surgeon Theobald Ringer, of the 7th Cavalry, at Nowgong, communicates an attempt to poison a langur (*Presbytis entellus*) with strychnine. One grain was concealed in a piece of cucumber, which the animal ate. After waiting some time, and finding no effect produced, three grains were given in the same substance, and the monkey appeared to relish the meal. Afterwards, some cyanide of potassium was mixed with sugar and placed between the pieces of bread; but, on smelling, the animal threw it away, and nothing would induce him to touch it. To test the strychnine, which had been some time in his pos-

session, Dr. Ringer administered three grains to a dog; in twenty minutes, the usual symptoms commenced, and it died in forty minutes after swallowing the poison. We know there are many vegetable poisons that act very differently on the lower animals to their effects on man. For instance, the immunity of pigeons to opium is pretty well established; goats can eat tobacco in large quantities, and rabbits can be fed on leaves of belladonna, stramonium, and hyoscyamus, without detriment; but the toleration of this monkey to strychnine is novel. We have not yet been able to gather any information on the subject beyond a few lines in a local paper, in which it is remarked of a mischievous monkey, "a druggist tried to poison the brute, but could not, as it seemed to eat all sorts of poison with impunity." We hope shortly to hear the results of other experiments; but we should be very glad to hear more on the subject from any officers who would take up the question.—*Indian Medical Gazette.*

THE "BIG MOUND" OF ST. LOUIS A NATURAL FORMATION.—At a recent meeting of the St. Louis Academy of Science, Professor Smith read a paper concerning the famous mound until recently existing at St. Louis, hitherto supposed to have been the work of the "mound builders." It was recently demolished to grade the track of the North Missouri Railroad. Professor Smith says:—"More than twenty years ago, I was convinced, from personal observation, that the "Big Mound" was a natural mound, and owed its elevation to natural causes, and the following were my reasons, which its demolition has but served to strengthen and confirm. 1. If it was artificial there must have been design in building it. It would puzzle the most imaginative antiquarian to find a motive powerful enough to induce a nation to expend so much labour as must have been required to heap up this vast mound of earth, without a more manifest design than is here apparent. As a point of look-out, it did not command a wide extent of country. As a fortification it was worse than useless. There are many other elevations in the vicinity which, so far as we can see, were much more available. 2. There is no proof that it was a place of sacrifice. No charred remains of either bones or wood have been found. True, some bones and a few Indian ornaments have been exhumed; but their position gave no evidence of design in placing them there, other than that of ordinary burial as practised among Indians at the present day. All that have been found, either of bones or trinkets, were superficially buried; indeed, some bodies even have been buried in the mound within the memory of men now living. Exaggerated stories have frequently floated about from mouth to mouth, and from newspaper to newspaper. As a sample, I give one of the most recent origin. While the mound was disappearing under the shovel of the labourer, it was reported that a large quantity of perforated bone discs had been discovered 25 feet below the top of the mound. I inquired of Dr. Briggs, who found them, and he told me that they lay about four feet below the surface. 3. Of the bones exhumed, none seem to date further back than a few years subsequent to the foundation of the city. Indeed, nothing that I have ever seen, which was found in the "Big Mound", has the appearance of dating further back than the time of the Indians contemporary with the settlement of the country by the whites. 4. If such an immense heap of earth were piled up by human labour, the workmen must have had tools of some kind; but no remains of such have ever been found either in the "Big

Mound" or its vicinity. 5. It has been said that the "Big Mound" must be artificial because so many things have been found in it. Instead of so many, the wonder is that so few were brought to light when it was dug down and carted off. No pieces of pottery, no remains pointing to the agency of fire, no remarkable specimens of Indian ornaments or implements except a few arrow-heads common wherever the aborigines roamed—nothing, indeed, more than has been found in thousands of Indian graves in similar localities elsewhere. 6. If the remains of this mound are evidences of its artificial character, then much stronger ones can be found in favour of a similar origin for the bluffs of the Mississippi and Illinois. The fact that the "Big Mound" was terraced on the eastern side proves nothing, for equally as curious and regular terraces may be found on almost any large water-course in the west flowing through similar soil. Evidently then, if we would establish any proof that this mound was artificial, we must bring forward better evidence than any found in it."

IN *Ausland* for January 1st is a very interesting representation of a rough sketch of a mammoth (*Elephas primigenius*), found on a bone of the mammoth itself, exhumed from the Madeleim cave, in the department of Dordogne.

ANTHROPOPHAGI.—We learn from the *Institut* of the 24th January that M. Quatrefages has presented a note to M. Garrigon on certain bones of man that he has found in a cave, and which have been split longitudinally, apparently to permit them to be used for various domestic purposes. He cites them as constituting an additional proof that the prehistoric races, who were dwellers in caves, were anthropophagous.

FAUNA OF ROUND ISLAND.—The remarkable discovery has been made by Sir H. Barkly, Governor of Mauritius, of four species of snakes and several species of lizards, on Round Island, a small island, twenty-five miles from Port St. Louis, and separated by a sea only four hundred feet deep, no animals of that description being natives of the Mauritius. The flora was also found to be, to a great extent, specifically distinct.—*The Academy*.

A SCLAVONIAN ACCOUNT OF CREATION.—The current issue of the Literary Society of Prague includes a volume of popular tales collected in all the Slavonian countries, and translated by M. Erben into Czech. We extract the shortest: "In the beginning there was only God, and he lay asleep and dreamed. At last it was time for him to wake and look at the world. Wherever he looked through the sky a star came out. He wondered what it was, and got up and began to walk. At last he came to our earth; he was very tired; the sweat ran down his forehead, and a drop fell on the ground. We are all made of this drop, and that is why we are the sons of God. Man was not made for pleasure; he was born of the sweat of God's face, and now he must live by the sweat of his own: that is why men have no rest."

At the forty-third meeting of the German Scientific and Medical Society at Innsbruck, in September last, Dr. Karl Vogt (of Geneva) summed up the main results of the recent Congress of Palæontologists at Copenhagen. After vindicating the place of Primeval History as one of the exact physical sciences, he divided the subject under three headings. 1. *The Age of the Human Race*.—There is no longer any doubt that man existed in Europe—probably the latest peopled part of the world—at a time when the great southern animals, the elephant, mammoth, rhinoceros, hippopotamus, were found there, which are now extinct. Even where no human remains or tools have been found, the acute researches of Steenstrup have found traces of man by distinguishing the bones which have been gnawed by animals from those which show signs of having been split by man for the sake of the marrow, or otherwise handled by him. It is equally certain that posterior to the advent of man the Straits of Gibraltar, of Dover, and the Dardanelles, as well as Sicily and Africa, were still united by isthmuses; the whole Mediterranean area was separated from Africa by a sea in the basin of Sahara; the Baltic was a sea of ice covering the whole of the low levels of North Germany and Russia, and cutting off Finland, Sweden, and Norway, into what would have been an island but for its junction with Denmark. The astonishing researches of Lartet in France, of Fraas in Germany, and of Dupont in Belgium, have proved that this period was succeeded by another, in which men hunted in the countries of Central Europe the reindeer and other arctic animals, in an arctic climate, and surrounded by an arctic flora. We may also speak with confidence of the migrations of these primeval races; the human contemporaries of the most ancient animals, the mammoth, the cave-bear, and the cave-lion, can only be traced in the western and southern parts of Europe. In Central Europe and Switzerland, their remains are unknown. In the “reindeer period”, again, we find man in Switzerland and in Suabia; but no trace of him in North Germany and Denmark. 2. *The growth of primeval civilisation* is shown by the striking similarity of the tools dug up in caves of the “reindeer period” in the South of France with those of the Esquimaux and Greenlanders collected in the Museum at Copenhagen. Our primeval Europeans were, no doubt, savages in the fullest sense, even those with a white skin being distinctly inferior, so far as we can make out, to the lowest type of modern savage, the Australian. They were cannibals, as has been lately shown by researches in Copenhagen. The lake villages in Switzerland, on the other hand, show that agriculture and the pastoral life flourished whilst the metals were still unknown, and that the introduction of them was connected with barter and trade. We are acquainted at present with a number of primeval manufacturing localities, and of the commercial routes which were used in the rudest times. It can be shown, moreover, that our civilisation came not from Asia, but from Africa; and Heer has proved that the cultivated plants in the Swiss lake villages are of African, and, to a great extent, Egyptian origin. 3. *The Corporeal Development of Man*, and the different families, kinds, and races of men, have been far less investigated than the corresponding divisions of the ape type. In many places, the skulls discovered have been few; but less than a year ago a whole cemetery of more than forty human skulls and skeletons, belonging to the “reindeer period”, was discovered near Solutri, in France. We, therefore, now have considerable material for arriving at conclusions respecting primeval man of this period. There can be no doubt that man approaches more nearly in bodily conform-

ation to the animal, and especially his nearest relative, the ape, the lower his stage of culture. As time goes on these characteristics gradually vanish, the forehead becomes more upright, the skull higher and more dome-shaped, and the projecting countenance gradually recedes under the skull. These changes are the result of man's conflict with his circumstances, and to the mental labour which that conflict entails.

JOURNAL

OF THE

ANTHROPOLOGICAL SOCIETY OF LONDON.

NOVEMBER 2ND, 1869.

DR. BEIGEL, V.P., IN THE CHAIR.

The Minutes of the previous meeting were read and confirmed.

The following new members were announced :

Fellows.—Captain G. J. D. 'Heath, Assist. Com. Gen., Madras Army, Madras ; Thomas Milne, Esq., M.D., New Deer, Aberdeenshire, N.B. ; Horace Swete, Esq., M.D., Dunmarklyn, Weston-super-Mare ; Dr. Samuel E. Maunsell, R.A., Freshwater, Isle of Wight ; Robert Watt, Esq., Ashley Avenue, Belfast, Ireland ; Lieut. William Henry Francklyne, Palamcottah, Madras Presidency ; William Pepper, Esq., Grantee, Bustee, N.W. Provinces, India ; E. W. Martin, Esq., Preston.

Hon. Fellow.—M. le Baron d'Omalius d'Halloy, Ciney, Belgique.

Corresponding Member.—Professor Dr. August Hirsch, Berlin.

The following contributions were announced, and the thanks of the meeting were voted to the respective donors :—

FOR THE LIBRARY.

From J. F. COLLINGWOOD, Esq.—Report of the British Association for 1868.

From the INSTITUTE.—Journal of the Royal Institution of Cornwall, No. 10.

From the MANX SOCIETY.—Mona Miscellany.

From the AUTHOR.—Resumé des Recherches sur l'Ancienneté de l'Homme en Ligurie. By M. A. Issel.

From Dr. RYAN TENISON.—British Medical Journal, vol. ii, July—December 1868.

From the AUTHOR.—Recherches Chimiques et Physiologiques sur l'Alimentation des Enfants. Dr. Coudereau.

From the EDITOR.—Medical Press and Circular, to date.

From the SOCIETY.—Proceedings of the Royal Society, Nos. 112, 113, 114.

From Mr. J. FRASER.—Hippocratis Aphorismi, Greek and Latin, 1685.

From the AUTHOR.—Supplement to the English Cyclopædia, Natural History, Parts 1, 2, 3, 4, 5, 6. By A. Ramsay, Esq., F.G.S.

From the SOCIETY.—Bulletins de la Société d'Anthropologie de Paris, iii, 5.

From the EDITOR.—Scientific Opinion, to date.

From the INSTITUTION.—Journal of the Royal United Service Institution, Nos. 54, 55, 1869.

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- From the **AUTHOR**.—The Greeks and their Detractors. By Dr. S. J. Cassimati.
- From the **SOCIETY**.—Journal of the Royal Geological Society of Ireland, part 1, vol. ii.
- From the **AUTHOR**.—Oversigt over det Kongelige danske Videnskabernes Selskabs, Copenhagen. No. 6, 1867. By Prof. Steenstrup.
- From the **PRESIDENT**.—Compte Rendu de la Commission Impériale Archéologique for 1867. St. Petersburg: 1868. Atlas to ditto.
- From the **ACADEMY**.—Bulletin de l'Académie Impériale des Sciences de St. Petersburg, vol. xiii, 21-37 fas.
- From the **EDITORS**.—Zeitschrift für Ethnologie, No. 11, 1869. By A. Bastian and R. Hartman.
- From the **ACADEMY**.—Sitzungsberichte der Kais. Akad. der Wissen. Phil. Hist., lix band, heft 1, 2, 3, 4. Ditto, i. Math. Nat. Classe, 1868, Abtheilung 4, 5. Ditto, ii, 4, 5, 6.
- From the **SOCIETY**.—Journal Royal Geographical Society, 1868. Proceedings ditto, Nos. 3 and 4, 1869.
- From Dr. **PAUL BROCA**.—Revue des Cours Scientifiques, No. 33.
- From the **SOCIETY**.—Proceedings of the Asiatic Society of Bengal, Feb., March, May, June, July, 1869. Journal ditto, parts i, ii, No. 2; part ii, No. 3.
- From H. **PRIGG**, jun., Esq.—Journal of the Suffolk Institute, June 1869.
- From the **AUTHOR**.—Examination of Mr. Gillespie's Argument. By T. S. Barrett, Esq.
- From the **AUTHORS**.—The Rare Romance of Reynard the Fox, in words of one syllable. S. Phillips Day.
- From **EDWARD JARVIS**, Esq., M.D.—Registry and Return of Births, Marriages, and Deaths in Massachusetts, 1869. Report of the Board of State Charities of Massachusetts, 1869. Census of Massachusetts for 1865. Report on Insanity and Idiocy in Massachusetts, 1855. Preliminary Report on the Eighth Census, 1860, U.S., by J. C. G. Kennedy. Ninth Census of the United States, by Dr. E. Jarvis.
- From the **SOCIETY**.—Journal of the Royal Asiatic Society, vol. iv, part 1.
- From the **AUTHORS**.—Dottings in Mosquito, Nicaragua, etc. By Capt. B. Pim and Dr. B. Seemann.
- From the **AUTHOR**.—Relazione all' Opera dei Davis & Thurnam, Crania Britannica. By Dr. A. Garbiglietti.
- From the **INSTITUTE**.—The Canadian Journal of Science, vol. xii, No. 3.
- From the **CLUB**.—Proceedings of the Cotswold Naturalists' Field Club.
- From the **INSTITUTION**.—Smithsonian Reports, 1867.
- From the **SOCIETY**.—Memoirs of the Boston Society of Natural History, vol. i, part 4. Proceedings ditto, 1868. Entomological Correspondence of Dr. T. W. Harris.
- From the **INSTITUTE**.—Proceedings of the Essex Institute, vol. v, Nos. 7, 8.
- From the **COLLEGE**.—Annual Report of the Museum of Comparative Zoology, Harvard College, Boston, 1867-8.

- From the SOCIETY.—Bulletin de la Société Impériale des Naturalistes de Moscow, No. iii.
- From the ROYAL INSTITUTION OF PALERMO.—Giornale di Scienze Naturali ed Economiche.
- From the WAR DEPARTMENT.—Report on Gunshot Wounds, War Department, U.S., Circular, No. 2.
- From the AUTHOR.—Ancient Faiths embodied in Ancient Names, vol. ii.
- From the INDIA OFFICE.—The People of India, vols. iii, iv. By F. Watson and J. W. Kaye.
- From the AUTHOR.—Die Hirnwindungen des Menschen. Zur Entwicklungsgeschichte der Furchen, und Windungen der Grosshirnhemisphären in Foetus des Menschen. By Professor A. Ecker.
- From the AUTHORS.—Reliquiæ Aquitanicæ, part i.
- From the SOCIETY.—Proceedings of the Society of Antiquaries of Scotland, vol. vii, part 1.
- From the AUTHOR.—Records of the Priory of the Isle of May. By John Stuart, LL.D.
- From the AUTHOR.—The Last of the Tasmanians. By James Bonwick, Esq., F.A.S.L.

FOR THE MUSEUM.

- From Professor KOPERNICKI.—Two Rumanyo skulls; two gypsy (Czigany) ditto; two Bulgarian ditto; one Ghiliak ditto.
- From Captain R. F. BURTON.—Quichua skull; Aymarâ ditto; two wooden idols, from Easter Island; obsidian knife, from ditto; hair rope, from ditto; two bows and seven arrows, Tupy Indians; Aymarâ cloth, from Arica; lumps of chewed maize for making chicha; wetted ashes used to chew with coca.

The DIRECTOR read the following resolution, which the Council had that day passed, limiting the time of reading papers and of speeches and replies:

"That no paper read before the Society do occupy more than half an hour, except by express permission of the Council. That no reply do occupy more than a quarter of an hour. That no comment occupy more than ten minutes. That the above resolution take effect on the 16th instant."

Mr. L. OWEN PIKE, M.A., V.P.A.S.L., read a paper

On the Methods of Anthropological Research.

To have been asked for a paper on the subject which I have now undertaken to discuss is to have been paid the highest compliment which a Committee of the Anthropological Society could, in my estimation, have bestowed upon me. It is not without great diffidence that I have accepted the honour thus conferred; for, if I have no other qualification for the task, I have at least a sense of its magnitude and importance, and a keen appreciation of its difficulties.

It is impossible to sketch out the methods of anthropological research without some previous statement of the objects of anthropological inquiry. Until the ends are stated with some precision, any one method is as good or as bad as another, and is no better than

the absence of all method whatsoever. It is, therefore, necessary to answer a question which is very commonly asked by persons who have no knowledge of the science, What is the meaning, or what is the use, of anthropology? It might be shortly answered, that the use of anthropology is to render a number of studies, which are useless when considered separately, useful in combination. The three classes of persons by whom the question is most frequently asked are professed antiquaries, professed scholars, and professed historians. In the last class, however, are to be discovered only historians of the most antiquated type, the modern representatives of the mediæval chroniclers, the men who suppose that they have written a history when they have stated in chronological order all the true or false details which industry enables them to discover, but who can see no lessons in the past, and believe in no indications of the future. What mere details are to the scientific historian, what mere scholarship is to the comparative philologist, what mere antiquities are to the archæologist, that and vastly more are the sciences of history, comparative philology, and archæology, in combination with various other sciences, to the anthropologist.

Like the mere chronicler, like the mere scholar, like the mere antiquary, the anthropologist has to deal with a mass of dry details; but he is unworthy of the name unless he can create something out of the rough fragments which are presented to his notice. There is, in fact, no study to which the *Cui bono?* objection is less applicable than to anthropology. Englishmen have written verses in the classical languages, when they had not the least conception of comparative philology; they have collected antiquities as mere curiosities; and they have learnt historical details under the impression that they were acquiring knowledge, and few persons have thought of asking what is the use? Anthropology, on the other hand, starts with the most practical and the most comprehensive of all ends in view, the discovery of the laws of human life, upon which must eventually be founded all education, all government, all colonisation, all social arrangements, all principles of right and wrong, so far as those principles may be independent of religion.

It is not, however, my object to show, in the present paper, how anthropological laws are to be applied when discovered; the discovery will lead surely enough to the application in the science of anthropology, as in all other sciences.

In the search for anthropological laws, it may be broadly stated that success is to be looked for on the same line of march which has led to success in other branches of inquiry. It will not be denied that whatever advance is made will follow upon the observation of phenomena, upon generalisation, upon the verification of principles tentatively assumed. And the rate of advance will be in proportion to the number of relevant observations, to the ingenuity displayed in generalisation, and to the accuracy of verification. This I take to be a concise statement of the scientific method applicable to every branch of inquiry. It only remains to interpret this recognised scientific formula in its application to anthropology. In short, the two

great questions to be asked are : What must we observe? and how must we verify? There is no fear but that we shall have, in the British Islands at least, an abundance of brilliant generalisations, for constructiveness is one of the best marked features of the British intellect.

The materials for anthropological observation and verification may be divided primarily into two great classes, of which, however, each one illustrates, and is necessary to a due appreciation of, the other. We have, firstly, the phenomena to be dealt with in human individuals, and, secondly, the phenomena of mankind in masses. The necessity of this two-fold method of observation adds, not a little, to the difficulty of anthropology as compared with some other sciences, but, on the other hand, there are great facilities for the verification of the conclusions arrived at in one class by comparison with the facts discovered, and the conclusions arrived at in the other class. I can, perhaps, best show my meaning by selecting an instance. The physician has been in the habit of acting upon the experience acquired by treating a number of individuals in succession; he has assumed that one human being with any particular disease should be treated in pretty nearly the same manner as any other human being with the same disease. He may, perhaps, have allowed something for age, and climate, but he has certainly not been in the habit of making any allowance for race, or of attempting to distinguish between the tendencies which are due to race and the tendencies which are due to climate. The collection, however, of statistics in most civilised countries may be expected to throw great light on this point. We shall have, it is to be hoped, statistics of disease, statistics of treatment, statistics of climate, and statistics of occupation; and a proper use of these materials may help considerably towards a better understanding of what has hitherto been somewhat vaguely called temperament or constitution. It will, of course, be necessary to collect statistics which have reference to natives of the same country, who have settled in different climates, and statistics which have reference to the intermixture of different races; and it cannot be but that from a combination of all these elements some important laws will be discovered.

In the observation of individuals much, of course, must be left to the ingenuity of the observer; but it may safely be laid down as a principle that the object to be kept in view is the discovery of correlations. We want to know, and we *must* know before there can be a science of anthropology, whether any characteristic of structure in one part of the body is or is not invariably accompanied by any characteristic of structure in another part of the body, whether the disturbance of any one function is or is not invariably accompanied by the disturbance of any other function, and what is the precise relation which peculiarity of function bears to peculiarity of structure. We want to carry out this investigation throughout the whole field of human life, from those phenomena of the alimentary canal which are shared by man with other animals to those complex manifestations of intellect in which man reigns supreme. The knowledge which we desire, it will be admitted, can only be acquired through a careful

comparison of the results attained by a study of individuals and by a study of mankind in masses, races, or sections.

It will thus be seen that anthropology cannot dispense with what has been, in defiance alike of logic and etymology, sometimes called ethnology. And as the statement has been widely circulated that anthropology means no more than ethnology, it is necessary to understand clearly not only what is meant by the former term, but also what is meant by the latter. So far as I am aware, no one has either traced out the history of the word, or defined it scientifically, and some misapprehension may be removed by an attempt to do both. The origin of the word *ἔθνος* is somewhat doubtful (and I do not intend to inflict a philological disquisition upon my hearers), but concerning its earliest known meaning there is no doubt whatever. In Homer, for instance, *ἔθνος* means simply a "large number", and is applied *ad libitum* to a crowd of men, to a body of soldiers, to a mass of corpses, to a plague of flies, to a swarm of bees, to flocks and herds, to great aggregations of any kind. Later in its history, it is forced, by the aid of various qualifying adjuncts, into a variety of significations, such as tribe, or family, or caste, or nation, and is even used by Xenophon to distinguish one sex from the other. Later again it is used in the New Testament to distinguish τὰ ἔθνη "the gentiles" from the Jews, and later still to distinguish τὰ ἔθνη "the heathen" from the Christians. In the language of Hellenistic writers, therefore, ethnology would mean the science which deals with the heathen, or the science which deals with the gentiles. In Greek, properly so called, it would either be meaningless, or would mean the science which deals with large aggregates of any kind. It may be presumed that ethnology does not mean the science of aggregates. It may also be presumed that ethnology was never intended to be the science of the gentiles or of the heathen, or of all nations except one, and we must therefore assume that it was intended to be the science of large bodies of men. It will, however, generally be found that even when *ἔθνος* is accepted in the sense of a large body of men, for which it never seems to have stood absolutely in classical Greek, the so-called ethnology is nothing more than ethnography, or the *description* of different nations. And the reason of this is obvious: there cannot be a "science of bodies of men" without a science of man in general. The bodies of men consist of individuals, and the attempt to found a science of such bodies without any reference to the individuals of which they are composed, is one of those royal roads to knowledge which must lead into a *cul-de-sac*.

Statistics, however, concerning large sections of mankind, their manners and customs, their structure, their occupation, the diseases to which they are subject, and the medium in which they live, are absolutely necessary to the anthropologist. It matters little whether such descriptions go by the name of ethnography, or of ethnology, or whether they are content with a simple English designation. So long as the information is relevant, the statistics trustworthy, and the averages correct, the anthropologist owes a deep debt of gratitude to any one who will supply him with a portion of his materials indispen-

able to his science, but useless without the anthropological methods of verifying the generalisations which may be suggested.

It may then be stated as a first principle of anthropology, that any generalisation formed upon a study of individuals must be verified by the statistics of nations, masses, or, if the term be preferred—races, and, on the other hand, that no really valuable generalisation formed upon the statistics of nations, or races, can be finally accepted without verification from a study of individuals, not merely human, but organic. No conclusion concerning the hereditary nature of any characteristics of structure or function, concerning the effects of climate or occupation, concerning the possibility of improving old or developing new faculties, concerning any branch of anthropology which is worthy of the name, can be accepted by men of science until they see that there is an anthropological method of sifting actual from possible causes. There is no doubt that the method which I have indicated requires much labour, much skill, much thought, and kindly co-operation from all who have the interests of mankind at heart, but I think also there is little doubt that it will, some day, yield an ample return for all the labour and thought bestowed upon it.

Thus far, I have treated of the anthropology which may be studied only in living organisms, and I have dwelt rather long, and perhaps too exclusively, upon this part of the subject, because I think it is impossible to lay too much stress upon the fundamental doctrine that all anthropology has for its end the good of the human beings of the present and the human beings of the future. It unfortunately happens, however, that we cannot dispense with the experience of the past; and the farther back we travel the more difficult it becomes to obtain accurate information. We find ourselves in almost as bad a condition as the first astronomers who had no accurate recorded observations to assist them; and in one respect we are in a worse condition, because we have series upon series of historical observations in which a little truth lies hidden among masses of falsehood.

For the anthropology of the present day, therefore, it is obviously of very great importance that there should exist a good school of historical criticism—a school which, if it must err, should err upon the side of scepticism rather than on the side of credulity. It is better to have no theories than to have theories founded upon false data. It is better to reject all doubtful evidence, even though the result may be a paucity of materials, than to revel in an abundance of historical shoddy. The facts useful to anthropology which have been handed down from a time when there was no idea of the possibility of such a science must, of necessity, be few in number, and in many instances inaccurate in detail. It therefore becomes the duty of the present generation not only to make its own observations with accuracy, but to exercise the utmost caution in accepting the grandiloquent statements of mediæval chroniclers concerning the extinction of whole nations, and the migrations of whole tribes. The meteorologists of the present day would not admit that gales and thunderstorms are miracles; the anthropologists of the present day must remember that

the persons who recorded miraculous gales and thunderstorms are the persons whose historical rhodomontades pass current as facts in the popular literature of our time. The historical method of the anthropologist should, therefore, be not less critical than that of Sir George C. Lewis.

There is a study which is of modern growth and which, though only a subsidiary branch of anthropology, is of more value to it than all the literature of the middle ages. I mean the study of what has been called Pre-historic Archæology. Though it may seem like a misuse of terms to make such an assertion, there is often better and truer history in a collection of flints than in a series of annals, and more food for reflection in a cleft skull than in a historical flourish. For my own part, I confess that the best written chapter of historical description which I ever read, I read, not in the pages of Thucydides, of Froissart, of Gibbon, or of Macaulay, but on a table in the Museum of the Anthropological Society of London, when the results of Mr. Rose's labours in Denmark were exhibited to the Fellows of that Society. And in the same way the greatest of all complete descriptive histories was to be read in that inner ring of the Paris Exhibition of 1867, in which the progress of the arts was illustrated. In the advance from the first chip of flint to the highly ornamented weapons of stone, in the collection of instruments by which the various results were attained, and again in the advance from the weapons and tools of stone to our modern appliances, there is a story of deeper interest than any to be found in the rise of dynasties or the overthrow of empires. There is no art of pen or pencil which could so well as these familiar collections strike home to the mind the truth of Tennyson's lines :—

“I doubt not through the ages one increasing purpose runs,
And the thoughts of men are widened by the process of the suns.”

It is hardly necessary to remark that in prehistoric archæology, or, as it is called by anthropologists, archaic anthropology, there lurk dangers almost as great, and there is need for caution almost as unremitting, as in the field of mediæval history. There is, however, another field in which these dangers are more formidable and the need for caution is still greater.

One of the first efforts towards that branch of the science which used formerly to be, and is now sometimes, called ethnology, was made by the comparative philologists. They assumed at first that the affinities of blood in different nations were in exact proportion to the similarity in the vocabularies of the languages spoken by those nations. As philology progressed, this position began to be maintained with somewhat less energy than in those early days when the investigation of Sanscrit showed its connection with numerous Western languages; and by degrees the principle was asserted that languages must be classified, not according to their vocabularies, but according to their grammars, with a corollary almost always implied, if not openly asserted, that races, no less than languages, must be classified according to grammatical forms. Stated nakedly in this

way, the inference is obviously too absurd for serious argument ; but among philologists, who think there is nothing like philology, and who have no anatomical or psychological knowledge of races, the grammatical theory of ethnic origin still lingers out its shadowy existence.

It has not, however, been my intention to introduce the subject of philology for the purpose of depreciating that very interesting and very useful science. If it had no place in anthropology there would be no necessity to mention it ; but it has a place, and one of some importance, though it is of very little value in the discrimination of races. The chief use to the anthropologist is the light which it throws upon the history of the human mind, and it sometimes places us in possession of a historical fact with more precision and in a more trustworthy manner than a contemporary chronicler. Indeed it is sometimes a contemporary chronicler without his human prejudices, and ignorance. It tells us sometimes, in the plainest possible language, but without comment, that a word must have been in use by a particular people at a particular time. It tells us frequently that the same word has been used by a second people at the same or another time. It points out, perhaps, that the word is not to be found in the vocabulary of some other languages, or if found at all, is found only in a very different form. From such evidence as this we can often fix a date before which some great step in civilisation must have been taken by the people who spoke that word. And thus it becomes possible to lay down with certainty a minimum of progress which must have been made by a section of the human family at a definite period of the world's history, even when all records have long been lost.

As an instance of this (and instances are always better than vague generalities), I may, perhaps, be permitted to mention that it has been my own good fortune to establish that a certain minimum of civilisation was possessed by the inhabitants of our own island before the Roman invasion. The proof of this is effected by a comparison of Welsh with Latin, and with other languages of the Aryan group. And though, of course, the Welsh language shows obvious traces of Roman influence, there yet exist in it a number of words which agree far more closely with some Aryan languages than with Latin, and others which, though they exist in some Aryan languages, are not to be found in Latin at all. It follows that, wherever such words describe the acts or the devices of civilised life, the civilisation, such as it was, must have been anterior to the coming of the Romans. This, of course, is only one illustration of what may be done by philology towards a history of the human mind, but it is one which I have selected as being most interesting to a British audience.

Of the same character, and of almost equal interest, though not possessing the same elements of certainty, is the light thrown by comparative philology on mythology, which constitutes a most important chapter in the history of the human mind. It is a misfortune that an attempt was made to establish a science of comparative mythology before the theories of the philological ethnologists were exploded. It is an everyday event to hear of Aryan myths in the sense of myths common to a number of branches of one great Aryan people. The convenient

hypothesis of an original Aryan language has been mixed up with an extremely inconvenient and self-contradictory theory of an Aryan people actually existing at present ; and it is from this confusion that has sprung the doctrine of an Aryan mythology—a doctrine at once too narrow and too comprehensive. There is no doubt that comparative philology has discovered how some of the stories of the classical mythology came into existence,—has shown how the dawn, the sun, the storm, and the clouds were personified, and how the first meaning of their names was forgotten. And this is in itself a discovery of which it is difficult to over-rate the importance, because it is the first step towards a far wider generalisation. It is not possible to describe exactly the mythology of the people who spoke what has been called the Aryan language, if indeed they had, in the proper sense of the term, a mythology, because the Persian, the Greek, and the Latin mythologies differ *inter se*, even where there is a verbal similarity, and because there exists hardly any verbal similarity between the classical and northern mythologies, though they are both recorded in Aryan languages. But, on the other hand, the similarity of tale which actually does exist in the northern and classical languages is to be found in nations which do not speak and never have spoken Aryan languages—in tribes as remote as the American Indians. Hence we arrive at the principle that there is resemblance of mythology even where there is no resemblance of language, and that the tendency to personify the powers of nature is a common attribute of the human mind throughout the whole world.

In this case the indication has been afforded by philology, though the generalisation is independent of it, and it would ill become the anthropologist to be ungrateful even for the indication. Apart, too, from what may be called applied philology, there is material for the anthropologist in philology pure and simple. Each individual language not only illustrates incidentally the social history of the people speaking it, but tells its own tale of new devices for the expression of thoughts. As a grammatical form dies out, there is something ready to take its place ; and decay in language, as in the organic world, is but another name for the renewal of life.* All this, of course, has its interest for the student of anthropology, but at first sight only such interest as all the workings of the human mind possess for him.

There is, however, a very intimate connection between the study of language and the study of psychology, which is one of the most important branches of anthropology. The dry squabbles of the mediæval schoolmen become full of new interest to any one who perceives that this old chopping of logic was to a great extent only a chopping of words. In those controversies may be perceived sometimes a great idea which the logician has in vain attempted to express, sometimes an ambiguous expression, which a self-sufficient philosopher has mistaken for a great idea. And though it would be unjust to deny that some of the most powerful human intellects are to be detected float-

* "Ut sylvas foliis pronos mutantur in annos,
Prima cadunt : ita verborum vetus interit ætas,
Et juvenum ritu florent modo nata vigentque."

Ars Poetica, 60.

ing about here and there in the vast whirlpool of scholasticism, it would hardly be unjust to apply to the scholastic authors in general the words of Pope—

"Wits, just like fools, at war about a name,
Have full as oft no meaning or the same."

And this principally from ambiguities of language and difficulties of expression—ambiguities, I am sorry to add, which have found their way into modern works on philology, so that it has been gravely maintained that articulate speech has had its origin in the naming of "the abstract," and "the general," whatever those terms may be supposed to mean.

Modern psychology, too, suffers terribly from the difficulties and the deceptions of language. It would not, perhaps, be easy to point out any living psychologist, even in Germany, who shows himself so completely the slave of ambiguous terms as Hegel; but, on the other hand, it would probably not be possible to discover any psychologist who, even though setting out with a knowledge of his danger, has not been the victim of some double-faced expression.

Here, I believe, lies the greatest obstruction to a real science of anthropology, and it is one which we must not be afraid to confront. Without psychology there is no anthropology. Without a good method, without clear and generally accepted definitions, there is no psychology. And in no branch of our science are plain definitions more required than in that to which the name of ethnology has commonly been given, in the description of the phenomena which distinguish race from race. It has been, hitherto, far too commonly the custom to describe the inhabitants of various countries as possessing a string of mental attributes designated by a number of abstract terms which may be interpreted in a hundred different senses by a hundred different readers. It is, however, to be hoped that, when the instructions of the Anthropological Society of London are issued to its local secretaries, something will be done towards putting an end to the confusion. Whatever those instructions may be, there can be no doubt that they will justly incur much adverse criticism; but it is to be hoped that they will be up to the level of modern psychological research, that they will make the best use of the established psychological laws, and that they will be sufficiently explicit to secure unity of action among the professed students of anthropology.

As there is an intimate connection between philology and psychology, so also there is an intimate connection between the study of physical characteristics and the study of psychical characteristics. We want to know not only what are the mental peculiarities of nations, races, or sections of mankind, but also the bodily conformation with which those peculiarities are associated. I have, however, for three reasons, avoided entering into details upon those methods of psychological research which may be of most assistance to us. I have felt that my paper will be too long even without such details; I have felt my inability to make any complex psychological system intelligible within the limits of one paper; and I have been reluctant to anticipate what is to be expected from the Anthropological Society. I

regret this the more because as the ultimate object of investigating physical characteristics must be to discover not only their correlations with one another, but their correlations with various functions and especially with psychical functions, my shortcomings in one branch of my subject must necessarily place me at a disadvantage in my treatment of another.

Having premised, however, that in the collection of facts, anthropology expects to derive some practical advantage over and above the mere facts themselves, I may perhaps be permitted to suggest that our science is omnivorous in the widest sense, that there is no individual fact too minute for it, and no mass of facts too great for it. But what is wanted above all things is accuracy, and as some facts are naturally more susceptible of accurate description than others, they acquire an importance which would not perhaps otherwise belong to them. In the statement of many physical facts there is a difficulty hardly less than that which besets many psychological statements. Ideas of colour, for instance, vary with the persons observing, and anatomical descriptions vary with the skill, and even with the instruments used by the anatomists. One may be able to trace a nerve-fibre where another cannot see it; one may assert a condition of blood which another may not be disposed to admit; one may give to a form of disease a name which another may consider inappropriate. And so it appears that one of our first requisites, even in the description of those facts which are learned through the eye, is a clear and generally admitted nomenclature.

It is, therefore, to some extent a matter for congratulation that anthropologists have very generally devoted themselves to the examination and description of those phenomena of human existence which can be submitted to the test of definite measures of length or weight. The exact stature and girth of a given number of individuals, taken indiscriminately among any people by one person, are worth far more than the combined statements of a number of travellers, who have visited that people without the rule and the tape. The travellers will certainly differ in their descriptions; the rule or the tape will give a definite average. The assertion that one people is tall, or another short, gives no clear idea, unless some standard of comparison is set up. And it may be laid down as one of the axioms of anthropology that we cannot have too much precise information which is given in metres, inches, pounds, grammes, or fractions of those standards of weight or length.

Great improvements have been effected of late years in the methods of measuring skulls and their contents, and it will hardly be denied that the information obtained in this way, and yet to be obtained, will be of the greatest benefit to anthropology. Though opinions may differ concerning the value of skulls as an index to race, it must be remembered that the skull is often the only index which can be found; and where a race-problem exists, the abandonment of the skulls is frequently equivalent to the abandonment of the problem. The answer, however, to so many other questions, must eventually turn upon the examination of brain-cases and brains, that the anti-

quarian branch of the subject sinks into insignificance by comparison. We do not yet know precisely what part is played by the brain as a whole, still less what part is played by any particular section of it in the phenomena of emotion and intellect. There are many theories on the subject, and perhaps none of them can be reconciled with the whole of the facts. But it is not difficult to perceive that labour bestowed upon the skull and its contents cannot, in the end, be labour thrown away. Even were it proved that the brain is in no sense the source of psychical manifestations, the discovery would still be worth having, and any discovery of a more positive character would, of course, be of greater importance.

All thanks, then, are due to those who have laboriously noted down the lengths, and breadths, and weights of skulls and brains, not only because their attention has been well directed, but because, also, their information is good of its kind—good because accurate. But valuable though the facts thus acquired must be, beyond all doubt, it by no means follows that facts, at first sight of a very inferior character, may not also have very great value. It is almost certain that when the microscope is brought to bear upon nerve-fibres, the result, if there be a new result, will be worth recording; it is not certain, but possible, that when the same instrument is brought to work upon sections of the hair, the result may also have some use beyond the mere facts revealed. The measurements of arms and legs, and still more of internal organs, may some day lead to the establishment of correlations as yet unsuspected. In short, it cannot be too generally known that anthropology does not mean the assertion of man's descent from apes. It means the collection of facts, not for the sake of the facts themselves, but for the sake of the laws to be discovered in them, for the sake of future generations to be benefited by them. It means, if not peace on earth, at least good will towards men, and it would mean peace on earth, if its enemies would allow it to be at peace. It means the only kind of philanthropy which can be of service to mankind—philanthropy founded upon science.

I have throughout been painfully conscious that I have not succeeded in avoiding what is very distasteful to me, a certain tone of dogmatism. My only excuse is that I did not select the subject for myself, and that it is impossible to describe methods without laying down positive doctrines, or else reiterating the words "in my opinion" in every sentence. I feel it, however, my duty to state that, although I was invited to write the paper, it consists simply of my own opinions; and that although I am greatly indebted to the Anthropological Society for the little knowledge I possess of the subject, my mistakes, my omissions, and my ignorance are all my own, and must not be visited upon the body which intrusted me with the task. I have endeavoured to give, as briefly as possible, an outline of a possible science of anthropology, and I have not intended to lay down absolutely any dogma except one—and that is, that we must not dogmatise. Whatever results may be arrived at, they will be reached by observation, generalisation, and verification conducted in the most perfect manner, be that manner what it may.

NOVEMBER 16TH, 1869.

DR. R. S. CHAENOCK, V.P., IN THE CHAIR.

THE minutes of the previous meeting were confirmed.

E. Holborow King, Esq., of 18, Stratford Place, was elected a Fellow. Professor Carl Gustav Carus, of Dresden, was elected a Corresponding Member.

The following presents were announced as having been received, and thanks were given to donors :—

FOR THE LIBRARY.

From the EDITOR.—*Nature*, to date.

From the SOCIETY.—*Journal of the Royal Geological Society of Ireland*, part 2, vol. ii.

From the SOCIETY.—*Proceedings of the Asiatic Society of Bengal*, No. 8, 1869.

From the AUTHOR.—*Dovere della Donna*, *Lezioni di Giuseppe Mas-triani*.

From Dr. CARTER BLAKE, F.G.S.—*A Ride across a Continent*, 2 vols. By F. Boyle, F.R.G.S.

From the ACADEMY.—*Proceedings of the Academy of Natural Sciences of Philadelphia*, Nos. 1—6, 1869.

Mr. F. G. H. PRICE read a paper "On the Customs of the Kaffirs," taken from the notes of Mr. Charles Hamilton during his sojourn amongst them, of which the following is an abstract :—

The Kaffirs are a remarkably fine muscular race of men, and of tall stature, averaging six feet. Their complexion or colour of the skin is of a deep bronze, not amounting to black ; their hair is short and crisp, but not woolly like the negro's ; nor are their noses so broad and flat, or lips so thick, as in the latter race. They are by nature great lovers of cattle ; and it is their ambition to own as large a herd as possible, which ultimately brings them in wealth, as it depends upon the extent of their herd the number of wives they are able to possess, each one being marketably worth from fifteen to twenty cows. The women think more highly of a man who has a number of wives ; and the husbands rarely make any difference in bestowing their favours upon one rather than another, but, if any more attention be shown to one than another, it is towards the first, who takes precedence over the other wives. The faithfulness of the husbands towards their wives is wonderful, considering the great temptations they have ; infidelity being rarely heard of. I also observed with admiration the great fairness and kindness the women evinced towards each other's children.

The Kaffirs are intelligent looking men, possessed of remarkable common sense, with fine lofty foreheads and quick eyes ; as an example of the latter, I have seen one of them trace a bee after it has left a flower for a great distance to its nest, where he has quickly taken its honey. They are likewise very swift of foot and possessed of great powers of endurance ; as an instance, I have myself witnessed a race between the native horse and an athletic Kaffir, over a distance of nearly two miles, when the latter has arrived at the winning post sound in wind

and limb some lengths ahead of the horse, which was thoroughly winded and totally unfit for anything but a bran mash.

The men mostly run wherever they go. If a Kaffir be despatched to a distant kraal with a letter or message, he is nearly certain to run the whole way, and nothing but the offer to take a pinch of snuff or rather a spoonful of snuff, will tempt him to linger. Snuff has a peculiar charm to the Kaffirs and they take it with great solemnity, not allowing any one to talk whilst they are in the act of thrusting it up their noses, which they literally do, with a wooden or ivory spoon fashioned by themselves for the purpose. After hearing each other's news they continue their respective journey.

It is of extremely rare occurrence to see any deformed children amongst them ; thus the inference I deduce from this fact is, that when a misshaped child is born, it is strangled and left as food for vultures. The women usually deliver themselves (being largely formed), with great ease, and apparently think little of it, for in a short time, they rise, pick up the infant (which is very nearly as fair as an European infant), and either carry it at their side, resting as it were upon their hips or on their backs. In this manner the woman will walk back to the kraal, at the entrance of which she is met by her chief, who takes the child in his arms and examines it to ascertain its sex ; should it be a female he appears much pleased, as she will some day increase his wealth ; yet he likes the boys as they, in their turn, add to his power. The Kaffirs are great hunters and most hospitable in their manners ; I have always received the greatest kindness and hospitality at their hands. I well remember being the guest of a fine old chief in the Umzimkulu country, when I did exactly as they did with one exception, *i. e.*, of eating raw meat, and I was epicure enough to prefer it cooked. The Kaffir is a kind sympathetic being towards his fellow creatures. One of their greatest vices is their cruelty—untaught nature frequently is cruel ; and if we remark it in the savage, we have been told to do so in the European schoolboy. It is, however, in a boy, almost always want of consideration ; in a Kaffir it is a sort of revenge, which he takes on an animal which he judges to be his enemy. He never appears satisfied with getting rid of him in the shortest way ; but once secure that no more danger is to be apprehended from him, he takes a miserable delight in seeing him suffer. If a beast were to be killed, and it could be done with safety, the Kaffir would like to have seen him disembowelled first and his eyes put out. One of the most stirring sights is a Kaffir war or other dance. I have seen large numbers of girls joining in these festivities, wearing merely necklaces and a band of beads fastened round their loins. It was curious to see, whilst looking around me, how from plump and gay in their maiden state they become, after marriage, emaciated and haggard, from rough usage and field work, which falls to their lot to perform ; notwithstanding this, they appear perfectly happy and contented. There is a curious custom observed by these people, not unlike that of circumcision practised by the Jews. This painful operation is performed when the boys arrive at puberty. During the celebration of these rites, which last a considerable time,

great merry-makings and feastings take place. The boys have various other forms to go through before they are fully admitted into the estate of man. A somewhat similar rite is gone through by the girls before they are considered marriageable.

The Kaffirs from towns, after they have served their time as servants, always return to their kraals and original customs, very soon forgetting all they have learned. As an instance of attempted civilisation, I will give you an account of a Kaffir named Lahungu. This man had been to England, and the guest of a philanthropic lady, and promoter of the S. P. G. After living there some time, he had a station given him in his native country, where he proceeded to act as a missionary. One day I visited him out of sheer curiosity, and, to my surprise, found him *in puris naturalibus*, and with as many wives as any other Kaffir.

The chiefs generally have the pick of the women for many miles round, and are most persevering in establishing or confirming their privilege. Barren Kaffir women are of rare occurrence. Girls never go out alone; they always walk about in a manner which is said to resemble that of the English school-girl, in couples, with their arms round each other's necks. They marry young; as at an early age, when most European ladies are supposed to be in their prime, these dark creatures become old.

The Kaffir is a most superstitious being; his superstitions, which stand him instead of many civilised institutions and religious excitements, are, as a rule, of a quaint and harmless nature. When a person dies, the Kaffir always says he remembers having observed (and on this occasion his memory is not only retentive, but convenient) certain ill omens which had happened to his kraal as far back as twenty moons. A snake, who represents the devil in some form or other, has been seen entering the hut; or fowls (harmless birds, on whose shoulders may be fastened any *onus* with impunity) passing in front—these he looks upon as being very ominous signs of a death-warrant issued against one or other member of the family. No Kaffir will allow his poultry to be driven in front of his habitation, which, after all, only proves his tenacity of life; they are always kept at the back. If one of the cocks were to perch in front of the kraal, and crow during the night, besides waking the family or any chance guest he might be entertaining, it would be looked upon as a death-warning.

Kaffirs live to a great age, and a respect is shown towards their old men and women, Spartan-like in its tenderness and punctuality. They are generally accompanied by two boys, who lead them about with much care, and give them their daily baths. This feeling of respect is entirely lost in the case of European settlers. I have observed that when a grey-headed white makes his appearance in the colony, especially if his grey hairs be accompanied with other symptoms of senility, the natives hold him in derision and point at him, making signs to one another plainly indicative of a deep feeling of dislike. "Yes," said a Kaffir chief to me, "what a wicked man he must have been to have left his own country in order to have his bones buried in a foreign land." So that there is a great feeling of patriotism at the bottom of this apparent irreverence for old age.

I visited a kraal where a man had just paid the last debt of nature, and his friends were going to bury him, so I remained to see the rites and to obtain what other information I could. At these solemn ceremonies, the Kaffirs exhibit their virtues in the way of patience and self-restraint, which are great, and, above all, of hospitality, the violation of which is considered one of their greatest sins. In pursuance of this idea, it is thought right to provide for the possible requirements of the dead. In the grave with the body they placed three huge calabashes, as large as could be obtained. They were filled with "outchualla" and "mealies", intended for the entertainment of himself and his god; and as it was thought that such luxuries might tempt some companion to visit him in the form of the spirit, a sufficiency was set aside for at least three of them. In the division of his property after death, the ordinary form was followed, and his brother succeeded to the wives of the deceased, who were a great addition to his wealth.

The following description, by Dr. Shortt, of the fifteen crania he presented to the Society's Museum in 1868, was then read:—

Description of Crania from India. By JOHN SHORTT, M.D., Loc. Sec. A.S.L.

The skulls I had the honour of presenting to the Anthropological Society, in May 1868, are from Southern India. At this distant date I am not in a position to describe any of them particularly as regards their formation and peculiarities, but herein I embody briefly the tribes they belonged to, and the localities from whence they were procured. The skulls were fifteen in number, and of these, numbers 1 and 4 belong to the Maraver tribe found in the south of India, in the Madura district. These skulls I obtained from the Sheva-gunga Zemindary, and they belong unmistakably to the Maraver tribe.

These people, as a tribe, are reported to have been thieves at one time. Their caste is low, their language Tamil; and as a tribe, they are well made and intelligent; many of the men are well and regularly featured, and carry themselves well, with a good stout figure and physique; but the women do not seem so well featured, having a breadth about their features, which seems to indicate a Mongolian commixture at some distant period. They perforate their earlobes, and weight them so as to bring them down to the shoulders.

No. 2 is a skull I found at the village of Peapally in the Kurnool district, lying close to the village, with a greater part of the skeleton behind a hedge. From this circumstance I am of opinion that it belonged to a traveller who must have been a pauper that died probably from want and neglect, and the body does not appear to have been buried. The peculiarity of this skull consists in the extreme flatness or straightness of the occipital bone. I believe it to have belonged to a man of the Canarese caste of the Lingaet sect. This I infer from having met, whilst out on a vaccination tour, with a man of this tribe a few miles from the village of Darrowgee in the Bellary district, not many days after finding the said skull. The man started out of his hut on hearing some children cry who were being vaccinated in

the vicinity. Being without a head cloth upon his clean shaved head, the form of his skull at once struck me. I stopped him and examined him carefully, when I found that his head was in every respect a facsimile of the skull I found at Peapally. Unfortunately I had no means of taking any measurements at the time. He seemed to be robust in health, having all his faculties about him, and as intelligent as may be expected from a common villager of his class. I do not remember having seen before a skull of this form in an adult. I had seen it in a couple of natives and one European child; the latter is now a belle of nineteen; the bones of the skull most probably have righted themselves now, for at the time I allude to, she was a child under three years of age.

No. 3 was given me by Lieutenant-Colonel Macaulay, who said that he had picked it up on the beach at Negapatam, and believed it to have belonged to a pariah. Nos. 5, 9, 10, 11, and 12, belong to the Canarese tribes, who are Lingaets, a Sudr sect of Hindoos, who wear the lingum in a silver casket suspended either from their necks or tied around the arm. The casket is supposed to contain the symbol of the regenerator Siva representing the *membrum virile* of himself, and the *puerum muliebre* of his wife Parvati. The majority of the Canarese people belong to this sect. These skulls are remarkable for their small size and well rounded form. I obtained them in the village of Darrowgee in the Bellary district. Nos. 6 and 7 belong to a class of pariahs, a low caste Sudrs, who are termed *Calicathiar* meaning literally "Southern people"—they are met with in Salem district. I found them on the Shervaroy Hills employed as coolies on coffee estates, and the few I saw were remarkable for their black skins, sharp intelligent features, and small white regular teeth. Desirous as I was of obtaining further information of these people, my stay was too brief in this district to admit of inquiries being made at the time. However, I have not lost sight of the subject, and hope the next time I visit this district to be able to obtain further information regarding them.

Nos. 8 and 9 belong to another class of pariahs who call themselves *Congo* pariahs. They are believed to be emigrants from the Conkans. These people I also found as coolies in the coffee estates. They are I believe scattered about the Salem district in small communities. Skulls Nos. 14 and 15 belong to the Sowrah tribe allied to the Hill tribes of Khondistan in the northern districts of this Presidency, as also in Orissa. I am indebted for both these skulls to the kindness of Mr. Assistant Apothecary Falloon of the Madras Medical Service, who procured them for me from Purlah Idemedy, an estate in the Ganjam district. The few people of the Sowrah tribe I met with in Orissa some years ago did not impress me very favourably as to their intelligence or natural capacity. The majority had low receding foreheads and prominent outstanding upper teeth. Not long ago they gave the Government some trouble in the Kemediy Malias.

The Director read a paper by Dr. S. I. Cassimati entitled—*Hints on the Noömetre, or the right method to be adopted by Anthropology as the basis of every science.*

All men may be classed as *orthæsthetic*—"right-perceiving," or *un-*

orthæsthetic—"wrong-perceiving"—the man of genius and the more or less insane. These should be discriminated at school by competent teachers, who should impart full and superior knowledge to the former class alone, "as capable of learning science and art,—and simply elementary letters to the latter, as unable to acquire *profitably* to themselves and to the State anything beyond sheer manipulation." The *orthæsthetic* will thus form "a naturally legitimate *caste*" to which sovereignty in the State will belong, subserviency being the deserved lot of the *unorthæsthetic*, on account of their fallacious perceptiveness.

The meeting then adjourned.

NOVEMBER 30TH, 1869.

JOHN BEDDOE, Esq., M.D., PRESIDENT, IN THE CHAIR.

THE minutes of the previous meeting were confirmed.

John Platts, Esq., 24, Ifield Road, West Brompton, and A. E. Harris, Esq., 6, Hastings Street, Calcutta, were elected Fellows. J. W. Peebles, Esq., U.S. Consul for Trebizond, was elected a Local Secretary.

The presents received since the last meeting were announced as follows:—

FOR THE LIBRARY.

From the SOCIETY.—Journal of the Royal Geological Society of Ireland, part 2, vol. ii.

From the SOCIETY.—Proceedings of the Asiatic Society of Bengal, No. 8, 1869.

From Dr. C. CARTER BLAKE, F.G.S.—A Ride across a Continent, 2 vols. By F. Boyle, F.R.G.S.

From the SOCIETY.—Proceedings of the Academy of Natural Sciences of Philadelphia, Nos. 1—6, 1869.

From the ACADEMY.—Verslagen en Mededeelingen der Koninklijke Akademie, Afdeeling Natuurkunde, Deel. iii. Jaarboek, ditto, ditto, 1868. Processen-Verbaal Van de Gewone Vergaderingen, 1868-9.

From the SOCIETY.—Proceedings of the Royal Geographical Society, No. 5, vol. xiii.

From the EDITOR.—Medical Press and Circular, to date.

From the EDITOR.—Scientific Opinion, to date.

From the EDITOR.—Nature, to date.

From Dr. E. T. RYAN TENISON.—British Medical Journal, to date.

The CHAIRMAN, in introducing Dr. Leitner, said: I think I may say that, of all those parts of the earth's surface of which our knowledge is at present very limited, there is none which ought to have greater interest for us than that which has been explored by Dr. Leitner, not merely in a geographical, but in an anthropological and philological point of view. The territory into which he has penetrated has been said to be the navel of the world, the cradle of nations. We understand that within the limits of that tract he has

not only found tribes hitherto unknown and undescribed, but he has also discovered the existence of three or four languages hitherto altogether unknown, which promise to be of the highest importance to anthropology and philology. There appears to be good reason to believe that he has found there not merely the brethren of the Sanscrit, but the parents, or, so to speak, the uncles of the Sanscrit language. This alone would have been a mighty discovery; but Dr. Leitner has much more to tell you.

Dr. G. W. LEITNER then read a paper "On the Shiná People," as follows: Before I proceed to what is more particularly my object this evening, it will be necessary for me to state in what respect a former tour to Ladak and adjacent provinces undertaken by myself throws light on that particular tour to Dardistan and the manners and customs of the Shiná people, to hear about whom you have come here to-night. One tour, in fact, led to the other. It will be necessary for me very briefly to give an account of that tour, remembering, at the same time, that I have in another place already spoken of it; and, therefore, whilst keeping its general outlines in view, I shall endeavour to give you such new facts as will compensate those of you who were present at the other meeting for having again come to hear me. The main point—of course, the Shiná people—I touch upon to-night for the first time.

The first tour was undertaken at the end of April 1866, and continued during the months of May and June of that year. An important fact which it established was, that certain passes, hitherto deemed inaccessible during that period of the year, were crossed by myself and my companion, H. Cowie (whom I had subsequently the misfortune of losing), by striking in a southerly direction, by the Shingûn and Marang, instead of by the Baralacha and Lachalung, passes. We came to Leh fully six weeks before the usual passes were open. This proved that Ladak was accessible by Zaskar and the Kyang plain, earlier than was supposed. The tour also somewhat shook my belief in the rarefaction of the air in high altitudes. It is true that on the Shingûn, having been caught in a snowstorm, and being under the necessity of spending the subsequent night on the icy summits, symptoms of fatigue presented themselves, and caused a sensation of faintness, but I experienced no undue bleeding from the nose, when we were actually come to the highest altitude of that pass; this circumstance alone was not favourable for determining—at all events, in our case—the effect of certain altitudes. One thing is certain: that, when afterwards crossing the Marang at an altitude of 18,200 feet, we did not feel the slightest inconvenience.

In order not to tread upon ground trodden on before, and which has been so admirably dealt with by General Cunningham, I found it necessary, by a system of runners going to important monasteries, to have performed before me those religious plays which have not hitherto been described. I may also mention that, when passing through Zaskar, and stopping for a short time at the monastery of Pugdal, I was able to see the great influence which an European had had on the abbot of that place, and, indeed, on the whole of the Zaskar people.

The moment I mentioned that I was acquainted with the name of Csoma de Körös, who had been for some years in the Pugdal Monastery, I seemed to find friends springing up around me. This man had spent some years there, and had so strongly imbued the abbot of the place with ideas of progress, that he had abolished the worship of the prayer-wheel, and offered to take any Englishman or countryman of the "Palingi dasa" or European disciple, as Körös was called, into Lassa. The only persons who are reported to have been there are French missionaries; but nothing more is known, for these missionaries have not been seen. At all events, with the exception of Montgomery's pundit, I believe Lassa has not recently been visited; and we ought to consider whether it is not worth while for any enlightened traveller to avail himself of the offer of the abbot, and go to settle the unsolved questions connected with Tibet Proper. Of course, on this tour we had certain hardships to undergo, which it is only necessary to speak of in the most general terms, as will be done by a mere reference to the fact that we lost two of our companions from exposure, and, in the case of Cowie, one from accident. At the conclusion of that tour, the Indian Government requested me to try to find out some particulars regarding Chilas, and whether it was not possible to identify it with the Kaylas or Hindu Olympus. It was at once pointed out that they were in altogether opposite directions; but the Government also wished me to find out something regarding the Chilasi dialect, and I was told that at Srinagar I should find all the assistance I might require, as the Maharajah of Kashmir had some Chilasi prisoners, from whom I might acquire an insight into the dialect. It is unnecessary for me to enter into the particulars of why I was unable to obtain satisfactory information from them. Fearful that I was wasting my time, I was obliged to transgress the general order connected with the crossing of the frontier; and, although specially warned at the time—that warning being supported by the desertions of my men—that the country was in a state of war, I found it necessary to advance at once to the frontier; and, if I did not get there the information I required, I determined to cross over, and endeavour by that means to carry out the objects of the mission on which I was sent. Owing to the state of the country, and from other causes, we gradually dwindled down from fifty retainers to two.

I will now state exactly what I have done, how far I have gone, and the mode which I adopted in my inquiries. Henry Lawrence, Vans Agnew, and, I believe, Colonel Young, had gone as far as the frontier of Gilghit. Middle Tibet had been satisfactorily explored, and in connection with it I am able to give supplementary information only; but the entirely new information which I am able to give refers to the countries lying south of the Hindu Kush and north of Khagan. There are to be found the following languages, which are now committed to writing for the first time:—SHINA is the language spoken by the Chilasis, the only Sunni Mahommedans of the Shiná race; also that of the Gilghitis, Astoris, Dareylis and Gor, and is mixed with Pushtu on the great Koli-Palus road; ARNYIA is the language of Chitral and Yassen, whose people are Shia Mahommedans;

KHAJUNA is the remarkable language of Hunza and Nagyr, and KALASHA that of the eastern ranges, at all events, of Kafiristan.

The peculiar tradition of the ferocity of the inhabitants and the inaccessibility of these countries seem to have frightened away travellers; I went four marches beyond where any other European had been. At the same time, the heights of neighbouring mountains had already enabled our surveyors to take a view of the Ghilghit territory. The country itself had not been visited before I did so, in 1866. The reputation of its being inaccessible, I ascertained to be unfounded. For certain political reasons, which it is not necessary for me to explain, this reputation was kept up, and so it was believed in India. The Dards were credited with cannibalism, a custom which, as far as my own observation extends, does not in any way exist among them. I found the country involved in warfare. All the tribes, Yassen, Chitral, Ghilghit, Hunza, Nagyr, Gôr, and, to a certain extent, Chilas, had all coalesced in this year of 1866 to fight the Maharajah of Kashmir, who was invading their country. It was supposed by the Maharajah that certain facts would be established in connection with his invasion of the country, which it was not to his interest to allow me to obtain. I found that the whole of the tribes were collected together; and, although the Maharajah was in actual possession of the Ghilghit fort, and the country was apparently more than decimated, the roofs of the houses being blown off, and not a single native being visible, yet, by my sending round a man with a drum to intimate that I was ready to give a feast to any of those races who chose to come, I collected together on the first evening no less than 150 people of different races, whom I afterwards entertained, and with whom I soon got on friendly terms. Whatever might be the ferocity of these people, they never shewed it to me, although they certainly did to the Sepoys of the Maharajah, whom they shot at from their ambushes. I was once attacked, but this was checked by the timely use of revolvers by those who accompanied me, and the rapidity of the firing induced the attacking party to explain that the whole thing was a mistake.

This second tour occupied three months. From Ghilghit and other districts, I took back some men to the Panjab with me. I there had them in my house, and I was thus enabled to check the information which I had collected in a miscellaneous way during my progress to Ghilghit. The mode which I adopted was this:—Whenever I was lucky enough to find one of these Dards who knew something of Hindustani or Kashmiri, what I said could be, in some degree, translated. In many instances I had to proceed by pointing out simple objects, then to the use of imperatives, and then proceed to infinitives and so on. By afterwards having the men in my house, by asking them separately, then by twos and threes together, and then making one man ask the others the same questions, I gradually came to the approximate certainty which is attainable in so complicated a subject. I adopted, in fact, the process which has been adopted and recommended by accurate philological inquirers. I need scarcely say that once in tolerable possession of the language, I could proceed to songs, legends and other things, but when I could get a man who understood a language with

which I was acquainted, I, of course, made use of him. In other words I made use of all the means possible to a traveller, and succeeded in checking what I had already gained. The Shiná portion of my vocabulary and the statistical information will not be shaken. We now come to the language of Chitral, which, like Shiná, is Sanscritic in its nature, and from its high state of inflection and from the preservation of pure sounds, and the monosyllabic nature of the roots, does not appear to have suffered that phonetic decay which most of the Sanscrit dialects have experienced. Nor does there appear to have been that loss of inflections which characterises some of the present vernaculars of India. With regard to the language of Kafiristan, the two Kafirs, whom I afterwards had with me, were youths with whose information I was not altogether satisfied, but I believe that now, for the first time, I have something like a real vocabulary of that hitherto mythical region.

The whole of the Dard country consists of valleys inhabited by people, all of whom have a superstition regarding their neighbours of the ferocity and cannibalism already mentioned, which has kept foreigners from visiting them, and which even among themselves prevents anything like intercourse. Three of the languages are, at all events, of Sanscrit character. And now we come to a most peculiar language, the Khajuná. Although not altogether unacquainted with a variety of languages I was unable to find any connection between the language of Hunza-Nagyr and that of any other country. The information is not enough to solve the problems regarding the inflections of certain verbs; but sufficient is obtained to give us a great puzzle. This language has been declared to be a puzzle by the savans and societies to whom I have submitted it, and no affinity to any other known language has been traced in it. It seems to me that if the tour had established nothing else it would have established this—that the excessive reluctance of our Government to allow the available pluck of India to show itself in explorations across the frontier is not altogether justifiable. In the presence of a most interesting frontier, in some cases only a few hours walk, we are depending to a very great extent on obscure rumours; and, secondly, on information supplied to us by our friends, the Russians. This is scarcely the most creditable state of things that can be imagined. This tour has at all events shown this: not only with regard to Ghilghit and some places beyond, which I have visited, whilst in a state of warfare—dangerous in every country, civilised or uncivilised—but also with regard to explorations generally, that by merely taking ordinary precautions and not trying at every turn to tread on the toe of social and religious prejudices it is possible for Europeans to go anywhere. But it seems that even that tour of 1866 has not altogether induced those who have the power, to give help to men who have the readiness to explore and further elucidate this almost unknown region, for fear of the complications which may arise. Now, if the matter were put upon the lowest grounds, we might say that if men are foolish enough to risk their lives for the sake of science, —though for my part I know of nothing more justifiable than

that they should do so—but if it were to be put on those low grounds—it certainly does not appear that the authorities ought to refuse assistance when it is for their interest that these risks are undertaken. The question of avenging the death of a man is irrelevant in most cases, and in others it may be totally put aside, especially when we have the instances of Stoddart and Conolly who, although they were murdered in Bokhara, are not yet avenged.

The people of Dardistan seem to have the remnants of an old civilisation somewhat resembling the purest parts of the Arian polity. This, however, has been obscured by the introduction of Mohammedanism into the country, but Mohammedanism sits upon the people very loosely, and allows us to perceive through it those vestiges to which I have alluded, and in corroboration of which statement I intend, if your patience will permit me, to point out a few.

The position of woman is in every respect higher than amongst the Hindus. In Chilas, even, where exists the only real intolerant Mahommedanism, the women take part in public council, and when an effort was made to invade their country some years ago, the women resisted the invading troops, and when driven back into the streets adjoining the fort are said to have poured hot oil on the heads of the Kashmir invaders. Again, if it be a sign of civilisation to have anything to do with the prize-ring, the men and women of Chilas certainly assert their superiority by what is certainly very much like boxing. In the case of women their iron wristlets are brought over their hands when engaging in that pastime. Mohammedanism is in Dardu land divided into its two great divisions, Shia and Sunni. Ghilghit, Yassen, Hunza and Nagyr belong to the former division. The Chilasi are more bigoted than any of the rest. The Hunza people known by the name of Kunjutis infest the road between Hunza and Yarkand, and, indeed, it is to this people that I owe the accident of my Karkandi's brother having been caught and carried into slavery. The people of Kunjut are certainly very determined robbers, but their luck seems to have deserted them, since Central Asian traders now avoid the road. There is one point in connection with this road which I would mention. The Mishtutsh Pass, which is supposed to be here (near Hunza), is here (nearer Chittrol); which shows how dangerous it is to take measurements from distant hills, without regard to the countries which lie behind, or without actual exploration under a variety of circumstances. There are some interesting anecdotes among the Chitrali, of which I will mention two. When Gour Rahmar, the former ruler of Chittrol, turned to be a Sunni, he thought it to be a matter of lucre and faith to sell his Shia subjects into slavery, as it appeared to him to be the means of realising a large revenue. He is supposed to have sold his mother into Badakshan; and, when remonstrated with for having sold her who had suckled him, he is said to have pointed to a cow and said: "This cow continues to give me milk, and I would have no hesitation in selling her; how much more, then, one whose time has been so long over?" And, again, when a saint of Mohammed, a great Moulvi, remonstrated with him for selling him into slavery, he said: "We have no hesitation in selling the Koran,

the word of God ; how much less shall we hesitate to sell the expounder of the word of God ?'

This Gour Rahman thought Ghilghit a favourable ground for kidnapping expeditions, and there is no doubt that it was subjected to incursions from him, and that at one time he ruled over it ; so much so that a short time before I was there three men were selling for a pony, two for a large piece of cloth (*pattu*), and one for a good hunting dog. This last is not altogether to the discredit of the Dardoos, since the appreciation of the friendship of the dog is utterly un-Mohammedan in its nature ; and it points out the possibility in their nature of a more generous appreciation of the natural objects by which they are surrounded. With regard to Kafiristan, it is almost certain that no cannibalism exists there. The Kafirs were supposed to be a sort of fair-haired and blue-eyed people ; and there is no doubt that one of the youths had light eyes, and he certainly was fairer than a Hindoo, for instance. But I certainly should not have thought of identifying the Kafir with the European. On inquiring amongst the lads who came down to me in the Punjab, they said that when they caught a Mohammedan of distinction, they drank a certain portion of his blood, evidently more out of bravado than from appetite.

With regard to the religion of the Kafirs it is very difficult to arrive at any correct information with respect to them. The two men I had with me were not favourable specimens. They had passed through Kashmir, and had stayed there for some time. Their ideas of a deity had been affected by the teachings to which they had been subjected by the Hindoos. It was quite clear that they were the greatest enemies of Mohammedans ; therefore, naturally, the Hindoos tried to make them believe that they were Hindoos. My opinion is that they are not Hindoos ; in fact the only religion amongst the Kafirs seems to consist in putting a stone on the top of a large heap of stones on the summit of a high mountain, once a year. The two Kafirs who were with me certainly tried to make me believe that they had a religion, and they spoke of Indra and Mahadeo, but I believe that they were taught to say so, and were utterly devoid of any spirit of religion, although they tried to palm off on me that they had some religion. When you see on the map the country which I call Dardistan, and which comprises the Sunni district of Chilas, the Shiâ districts of Ghilghit, Hunza, Nagyr, Yassen, Chitral, etc., and Kafiristan (about which, although I have a considerable vocabulary, and a great deal of interesting information, a great many doubts remain), and when there are over a hundred names to be put into this map—names of rivers, villages, cities, etc.—you will perhaps regret, with myself, that I am not able to complete it, as I am obliged to leave this country in a few days and go back to official work. However it is something to have got a little more knowledge of the relative positions of these countries. I will now proceed to read you some of the customs of the people of Shinâ. The farther you proceed in the eastward direction from Tibet, the more you will perceive the jawbone less protruding, the colour lighter, and in the case of an attack which I have mentioned, I was interested in finding that the chieftain of the party had perfectly fair hair of almost

a yellowish hue, and that his face strongly reminded me of the Cossacks I have seen during the Russian war. I may mention, incidentally, that a report which appeared in the *Invalide Russe* crediting me with having been at Herat and fighting on the side of the Bokharians is utterly untrue. I shall now conclude my account by calling your attention to the Yarkandi, who is here to-night, and to the collection of articles from his country, and will also read some notes which I have jotted down, on the customs of the Shiná people as illustrated by some of their legends.

Dr. Leitner then read a legend, and the following account of some of the social customs of the Shiná people, which indicated a peculiar polity and civilisation.

Three days after the birth of a child in Ghilghit a large company assembles, and the father gives it its name, or gets some one to fix his hand at random on a passage or word in the Koran. Both men and women assemble together. Till the child receives its name the mother is declared impure. In Ghilghit the woman is separated from her husband for twenty days, and the bedclothes are washed previous to her being restored to him. The men and women eat together. Marriage in Ghilghit appears to be a more simple ceremony than in Chilas. The father of the young man comes to the father of the girl with four yards of cloth, and a pumpkin filled with wine, and if the presents be accepted the marriage is to take place. The betrothal is inviolable, and is only broken by the death of the woman. The young man has liberty to dissolve the contract after the marriage has taken place, but the married woman cannot do this. The ceremony takes place at the bride's house, and prayers having been read, the ceremony commences. The young man is accompanied by twelve of his friends, and when the ceremony has taken place a song is sung. The relationship between husband and wife is not altogether dissimilar to that amongst ourselves. Not the least hesitation is felt at a friend of the husband's calling on his friend's wife, and no suspicion is felt on that account. There is such a thing as courtship amongst them, very similar to our own, and very dissimilar to what exists among the Mussulmans of India. There are many things which show the people to be purer Aryans than the Hindoos. Mohammedanism sets very loosely on them. The seduction of a girl is very severely punished, and for such an offence the Shiná people know no pardon. The Shén is the first of the castes into which the people are divided, the Yustgan being the next. If a man of the Shén caste seduces a girl of the Yustgan caste, it is for a Yustgan man to take revenge. When a Yustgan seduces a Shén girl it is a stain on the honour of the family, and attempts will be made on both sides to revenge the affront. Marriage is a different matter. A Shén man may marry a Yustgan girl, but even then there is a certain distinction of caste. The trust which man and wife place in each other, may be illustrated by some of their songs. In one the wife looks at her husband surrounded by girls, all flirting with him, and anxious to gain his attention. She sits in a far corner and says, "They are little birds. They fly gaily about, seeking enjoyment from a flower which, after all, belongs only to me. It is I, his wedded wife,

who can look gaily at your amusement." In another song there is another scene, in which again the relationship of the sexes is put on a different footing from what it is in India. The woman, dazzled by the wealth of an elder suitor, rejects the younger one. She afterwards bitterly regrets it, and the young man sings to this effect—"Now, what good has been the alliance of the dove with the bear? You still have to come looking at your mirror, and putting antimony in your eyes, and recall the recollection of your refused lover." I mean to say that, looking at the number of these legends, and the peculiarity of the customs, this must have been the first halting-place of the Aryans on their way to India. It is surely worth while to investigate the subject. I would not lay so much stress on this point if I did not speak with a certain sense of regret. I do not blame the existence of rules which may be very necessary for the preservation of order and discipline, but it seems to me that if any dangers exist they should be left to the man who is willing to risk his life for the sake of new discoveries, rather than to one staying at home.

I will now proceed to say a few words with reference to the Yarkandi. I should never have thought of asking a man of these countries to accompany me; but this man, who had reached Lahor, asked that he might accompany me. It was such an extraordinary request for a native of that country to make, and the opportunity being thus thrown in my way, I should have thought myself neglecting my duty to science if I had refused to accede to his request. Here is the first member of a race with whom we profess to wish to enter into relations, absolutely volunteering to leave his own country and come into what is to him a land of infidels. I therefore brought him with me. It seems to me that, considering the fact that we have now a real native of that country, we are bound to extract from him such information as he can give us, and to give him in return such information concerning our own trades and manufactures as it is in our power to impart. Yarkand is a much more important country than was once supposed, in a commercial sense, and in a philological sense also. As this man is the first of his race who has visited this country, we can make him the pioneer of our civilisation when he returns. Shall I take this man back? The Yarkands will laugh at our pretensions of wishing to enter into relations with them if, when one of their own race has been all the way to London, he should return without seeing or being asked anything. I am not personally inclined to take him back with me, for it seems to me that we should try to make him remember this country, not by the kindness of one, but by the kindness of many. And this is especially important when there are so many who, if they had the opportunity, would be glad to take him by the hand and show him what there is to be seen, and give him every information. It is a matter in which I have no personal interest, since I am willing to make him over to anyone sufficiently able and interested to take charge of him. It is an opportunity which may never occur again. He is a man who can give us information *at first hand*. We are now congratulating ourselves extravagantly for very indifferent information at second hand from Mr. Shaw and Mr. Heyward, who were, it is said,

not permitted to go beyond a courtyard some ten yards long whilst at Yarkand and Kashgher. Perhaps I ought not to take so much interest in the matter, but I should not feel that I had done my duty. Dr. Leitner then explained the various curiosities which he had brought for inspection.

The CHAIRMAN moved a vote of thanks to Dr. Leitner for his highly important and eloquent address, which was passed by acclamation.

The following gentlemen spoke briefly, and addressed various questions to Dr. Leitner:—Dr. Beddoe, Major Levenson, Mr. W. C. Dendy, Rev. J. G. Wood, M.A., Dr. Seemann, Mr. K. R. H. Mackenzie, Mr. A. L. Lewis, Mr. J. Jones, Major Owen; and Dr. Leitner replied. He said the whole extent of the ground in the Himalayas, old and new, over which he had travelled, was 1600 miles. Everything in the shape of literature, writing, or engraving in these countries belonged to Tibet and to Balti. The Chinese character of several of the articles pointed out by Mr. Wood was owing to the fact that Yarkand, from which they came, was formerly subject to China. It was a fact worthy of note that Hindooism was encroaching upon Buddhism. It had always been believed that Hindooism was unproselytising, but recent events did not confirm this belief. Evidence of this was to be found in the attempts made to get those who were not Mohammedans—*e. g.*, the Siah Posh Kafirs, and the Buddhists—to declare themselves Hindoos. With regard to a question put by Mr. Lewis, he (Dr. Leitner) was not prepared to state whether any monuments similar to our Druidical monuments were to be found. Monuments of various kinds existed in Tibet, but in Ghilghit there were none. Whatever could be seen of literature referred to Tibet of Yarkand, but the Dards had had their languages written down for the first time by himself. An immense amount of material yet remained to be published. The food of the countries was of the coarsest kind, and they had caverns in the mountains, each family alone knowing the road to its own particular cavern. His men could always obtain food, whilst the Maharajah's troops were starving. There was wine in Ghilghit, and beer, made in the same way as ours, but not purified. The beer was a very nasty sort of drink, but the wine was a little better. This they drank at all their meetings, but especially at funerals. With regard to a question put by Dr. Seemann—in the towns the houses were covered in the loosest manner with a rough kind of roof, over which a kind of terrace, formed by steps, was placed. The traditions of Ghilghit were unwritten, and it was a difficult task to get them while the country was in a state of war. Among these traditions was one relating to the emancipation of the country from the rule of a monster who fed on young children, and which might possibly have some connection with the belief that cannibalism existed in the country. Major Levenson had suggested the possibility of some of these tribes being identical with the Jewish race. Although many whom he (Dr. Leitner) had met had a somewhat Jewish cast of countenance, he was not acquainted with any tradition or anything else that would identify them with the Jews.

Dr. SEEMANN moved, and Mr. BRABROOK seconded, the following resolution, which was adopted unanimously:—

Resolved—"That the exploration of our frontier and of the countries near to Central Asia, which are at present an almost *terra incognita*, is of the utmost importance to anthropology; and that the Indian Government will confer the greatest boon upon our science by giving whatever support and encouragement it may have in its power to those enterprising and courageous travellers who are willing and able to risk their lives in the attempt."

The meeting then adjourned.

DECEMBER 14TH, 1869.

DR. R. S. CHARNOCK, V.P., IN THE CHAIR.

THE minutes of the previous meeting were confirmed.

The following presents were announced, and thanks were voted to the respective donors:—

FOR THE LIBRARY.

From the SOCIETY.—Bulletins de la Société d'Anthropologie de Paris
Fev. et Avril, 1869.

From the EDITOR.—Nature, to date.

From the EDITOR.—American Eclectic Medical Review, Nos. 1, 2, 3, 4, and 5, of vol. v.

From Dr. E. T. RYAN TENISON.—British Medical Journal.

From the SOCIETY.—Journal of the Ethnological Society, October, No. 3.

From Dr. BURMEISTER.—Anales del Museo Publico de Buenos Aires, No. 6, 1869.

From Dr. B. SEEMANN.—Discourses on the Malevolent Sentiment: John Hey, D.D. Vestiges of Ancient Manners and Customs in Italy: Rev. J. J. Blunt. A Philosophical Treatise on the Passions: Dr. J. Cogan.

From the SOCIETY.—Proceedings of the Asiatic Society of Bengal, September 1869.

FOR THE MUSEUM.

From the Rev. J. G. WOOD, M.A., F.L.S.—Reversible bow and two arrows from Cashmere. Pellet bow from India.

MR. C. STANILAND WAKE, F.A.S.L., read a paper on "The Race Elements of the Madecasses."

Until the appearance, in 1858, of the Rev. William Ellis's narrative of his three visits to Madagascar, almost the only particulars we had of the aborigines of this great island were those furnished by the French travellers, Flacourt and Rochon, and by the captive English sailor, Drury. Other writers have described them, and sought to establish their race affinity; but they have added little to the particulars that had already been furnished us by the earlier writers. Of these, Drury is especially valuable, as he lived for many years among the dark tribes of the south and west of Madagascar, who probably

showed the characters of the aboriginal population in their primitive phase. The tribes observed by the French travellers mentioned, although in most particulars they agree with those on the opposite side of the island, visited by Drury, apparently showed traces of early foreign intercourse. In 1822, a History of Madagascar was written and published on behalf of the London Missionary Society, by Samuel Copland; but, although it gives many details relating to the island and the customs of its inhabitants, it was, as it professed to be, founded on the works of previous writers, chiefly those of Flacourt, Rochon, and Drury, and the travels of Benyowsky, who appears to have been for some time among the tribes of the north-west coast. These people are the same as Drury met with and described under the name of Saccalavor, the Sakalaves of later writers. It was not, however, until Mr. Ellis's visit to Madagascar that much became known of the inhabitants of the north-eastern part of the island, or of the interior tribe who, under the name of Hovas, have now established their supremacy throughout nearly the whole country. The most recent description of the Madecasses has been given in a paper read before the Anthropological Society of London by Lieut. Oliver. This paper is full of most interesting details; but it does not attempt to deal scientifically with the vexed question of their origin or racial affinities; and it is to throw some light on this subject, by deduction from the data furnished us by Mr. Ellis and other travellers, that this paper has been written.

Mr. Ellis, in his interesting work, *Three Visits to Madagascar*, thus describes the physical appearance of the Hovas, who inhabit the central mountain district of Ankova. After stating that "many of the Hovas possessed remarkably well-formed heads," he continues: "The foreheads were always well shaped, even when the space between the eyebrows and the hair, as in some few instances, was comparatively narrow. The eyes were never large or projecting, but clear and bright, and the eyebrows well defined without being heavy. The nose was frequently aquiline and firm, never thick and fleshy; it was, however, more frequently straight, and sometimes short and broad, without fulness at the end. The lips were generally slightly projecting, though seldom round and large..... Style of feature seems to mark the Hovas much more distinctly than colour or hair. The colour of some of the Hovas is as dark as that of the most swarthy races in the island, while their hair is straight or curling, and their features exhibit the peculiar form of the European; and, even where the hair is frizzled or crisped, as is occasionally the case, the features exhibit no approach to the Negro type."

The conclusion Mr. Ellis draws from a comparison of the physical appearance of the Hovas with that of the other tribes of Madagascar is that the former belong to a distinct stock, and that they are "descended from the ancient race from which the Malayan Archipelago and Eastern Polynesia derive their inhabitants." This conclusion, which is supported by certain affinities of language and resemblance of customs, to which I shall afterwards refer, is apparently confirmed by Lieutenant Oliver, who declares that there are "two special types

of men" in Madagascar, the one, the light, represented by the Hovas, the Betanimenas, and two other tribes, whose physiology he says is "Mongol with affinities to the Malays," and the other, the dark, of which the Salaklaves present the type.

The Eastern origin thus ascribed to the lighter-complexioned Madecasses may be the true one, but I would point out a consequence which has not been sufficiently considered. Mr. Ellis says: "In Madagascar itself different dialects exist. The spoken language of the Hovas, and others inhabiting the interior provinces, differs from that on the coasts, where the *ng* is frequently used. Still, in its verbal form and grammatical structure, one language may be said to pervade the entire country." This testimony, which is confirmed by Mr. Griffiths in his *Malagasy Grammar*, is valuable, and leads to an important conclusion. For, if the Hovas, judging by their language, have had an Eastern origin, so must all the other Madecasse tribes; unless, indeed, the language spoken by the latter has been imposed on them by the Hovas. The latter people are certainly now predominant, but their supremacy has been too recently established to allow us to suppose that the imposition of their language on the other tribes has been since effected.

The earliest reference, by an European writer, to the Hovas, appears to be in the description given by Drury of the visit to the Northern Sakalaves of two ambassadors from "a mountainous inland place, divided into two kingdoms called Amboer-Lambo, which were governed by two brothers." The description of this inland country and its products given by Drury agrees very well with Ankova, and the opinion that the writer really referred to the Hovas is confirmed in a curious way. Dr. Pickering, of the United States Exploring Expedition, says that two Hovas whom he saw at Zanzibar, were there called "Ambolambo from Booken." What *Booken* means, I do not know; but Ambolambo, which in Malagasy means "smoothness, glibness," is evidently the "Amboer-Lambo" of Drury. This writer adds that the inhabitants of the inland mountainous district were at one time too strong for the Sakalaves; but there is nothing in his language to lead us to suppose that he intended anything more than a casual superiority, and in Drury's time the Sakalaves, owing to the introduction of European weapons, were the more powerful.

The only conclusion that can be drawn from the known data as to the relative positions of the ancestors of the Hovas and the other Madecasse tribes, is that, although the former may at various times have made themselves formidable to their neighbours, yet that they never had such a supremacy as to enable them to impose their language on the latter. We are justified in inferring, therefore, from their possession of a common language, that all the Madecasses have had a common origin. This inference is confirmed, moreover, by what we know of their customs and superstitions, which do not appear to materially differ in the various parts of the island, except only so far as that the Hovas may have made greater advances in the arts of civilisation, although this is doubtless a very recent phenomenon. Now, if one thing in relation to the dark tribes of Madagascar is more certain than any other, it is their African affinity. As I shall show, these

tribes, at least, undoubtedly belong to the race which is spread over Eastern and Southern Africa, being related more especially to the Kafir and other tribes of the south-eastern coast. This can be established by a comparison of physical structure, customs, and language, and I do not see how we can escape from extending this African affinity to the Hovas themselves. It can be shown, indeed, that, even in physical characteristics, the Hovas are not so far removed from some of the peoples of Eastern Africa as is generally supposed. Not that the Hovas have *no* Malayan or Polynesian affinities. I only deny that these are of the paramount importance usually ascribed to them. The fact is that the Madagasscs hold a very curious and peculiar position. Not only are they related to the peoples of Southern Africa, and of the Malayan Archipelago, but, as I shall show, they have certain points of affinity with the Abyssinians, and the so-called Semitic race, and even with the peoples of the Anamitic stock. It would seem, indeed, as though the Madagasscs are related to all the peoples surrounding the basin of the Indian Ocean, and even the Hovas are much more likely to have had a local origin, than to have been derived from the Malayan Archipelago.

I shall have to treat more particularly hereafter of this part of the subject, and I would here draw your attention to a very remarkable phenomenon, which will, I think, throw much light on the whole question before us. I refer to the existence, side by side, at several localities at a distance from each other, within the tropics, of dark and light peoples, who *apparently* have as little affinity as the Hovas and the dark tribes of Madagascar are supposed to have. The importance of this phenomenon is increased by the fact that these localities are exactly those where rival theories require that the place of origin of the Madagasscs should be placed. Thus, in South Africa we have the Kafirs and the Hottentots, and in the Indian Archipelago the Malays and the Papuans. Now, not only have we here the remarkable division into dark and light tribes, but it can be shown, I think, that the several dark tribes, and even that the several light tribes, of these various localities, have certain characteristics in common which prove their close relationship. In fact, all the dark tribes are evidently merely separate branches of a single dark race spread throughout the tropics, as the other tribes belong to a light race similarly distributed.

In the physical structure of the dark peoples of the tropics, notwithstanding certain differences inseparable from long-continued existence under varying conditions of climate and life, there is, undoubtedly, if we may believe the reports of travellers, a certain general agreement quite sufficient to lead us to infer that they have all sprung from a common stock. Mr. Wallace declares that the Polynesians belong to the Papuan race; and, if this be so, as there is reason to suppose, there can be no difficulty in believing that the Kafirs and the Papuans belong to the same race. Moreover, the dark tribes of Madagascar form a connecting link between these races not merely in position, but also in type. M. Lesson was so much struck with the resemblance between the Papuans and the dark people of Southern Madagascar, that he concluded that the former had proceeded from

this island ; and he was no less struck with the physical agreement between the dark Madecasses and the Kafirs of South Africa. A special peculiarity in which the Papuans and the Kafirs agree is in the long nose, which strikes every traveller as being a Semitic character. I am not aware whether this is a characteristic of the dark tribes of Madagascar ; but probably it is not entirely wanting among the Sakalaves, judging from the fact that some of them wear a ring in the cartilage of the nose. Difference in character of the hair is a matter of little importance. That of the Madecasses is certainly, as a rule, straighter than the hair of the Papuans or Kafirs, but this is not always so. Some of their tribes have frizzly hair, and occasionally even it is frizzed into the form of a mop, as practised by the Papuans. The hair of the Kafir more nearly approaches the Papuan character, not merely in being constantly frizzled, but in its tendency to grow in tufts. Mr. Ellis remarks that some of the Madecasses, even among the Hovas, have frizzly hair, but he adds that he never met with one with hair so woolly as that of many of the Kafirs—notably of Sechele, “the tall, noble-looking chief of Kolobeng,” as he is described, “the covering of whose finely formed head hung down, not in ringlets, but in cords of the most closely matted fine woolly hair.” In this respect, as in their prognathism, the East Africans make a nearer approach to the negro type. Drury incidentally refers to the strong smell of the Sakalave skin, and Mr. H. Y. Barrett, a late resident in Natal, makes the same observation as to the Kafirs. This is a characteristic of little importance in itself, but it confirms the conclusion arrived at from other data. Mr. Logan, who has examined minutely into the question, gives the physical characteristics of what he says might be called the Indo-African type, to which he refers several of the Madecasse tribes. These characteristics are “the spiral hair, the oval and sometimes elongated form of the face, the moderate thickness of the lips, which in some varieties even become thin, the general absence of the prognathous form, which is so marked a peculiarity of some of the African and Asianesian negroes, and of the obliquity of the ocular opening and smallness of the eye which distinguishes many of the East Asian races ; the nose, full and somewhat flat, but sometimes slightly aquiline, and, in general, standing out from the face much more than in the South-east Asian races ; the anterior projection of the cheek bones ; and, on the whole, a general cast of countenance decidedly retiring from that of the Guinea negro on the one side, and the Mongol on the other.” The general conclusion arrived at by Mr. Logan would probably be that entertained by Blumenbach, who says that the Papuans and New Hollanders “graduate away so insensibly towards the Ethiopian variety, that if it was thought convenient, they might not unfairly be classed with them.”

The chief physical characteristic, however, on which many anthropologists will rely is the skull ; and although, in the absence of a considerable number of specimens, only very general conclusions as to cranial affinity can be formed, yet these conclusions may be used as confirmatory evidence. Thus, the general deduction from the measurements given in Dr. J. Barnard Davis' *Thesaurus Craniorum* is

that the skulls of both Kafirs and Papuans are *dolichocephalic*. Dr. Davis appears, moreover, to think that such is also the general character of the Madecasse skull, although less prominently so. In this the dark peoples are distinguished from the natives of the western part of the Malayan Archipelago, whose skulls are *brachycephalic*. I shall have again to refer to craniological phenomena, and I would add here only that, while they point to the general conclusion that all the branches of the dark race, excluding perhaps the Polynesians, whose Papuan character is somewhat doubtful, are dolichocephalic; yet, on the one hand, this character does not belong exclusively to them—it being exhibited by the Hottentots, and in a less degree by the light tribes of Madagascar, and the Dyaks—and, on the other hand, the dark tribes of New Caledonia, and the neighbouring islands, have a tendency to brachycephalism.

In treating of the mental characteristics and customs of the peoples now under examination, the object of this paper is not to give them a full description, but merely to point out peculiar traits in which the peoples themselves thus agree. The special agreement of the Madecasses with the Kafirs is in nothing more observable than in their pastoral character; and, in the absence of domestic cattle, we might be tempted to believe that the Papuans bear to the Madecasses much the same relation as the semi-Negro tribes of West Africa bear to the pastoral tribes of the East Coast. The whole social economy of the Madecasses, as described by Drury, bears the greatest resemblance to that still exhibited in South Africa. Living in communities, each under its particular chief, their villages were either built in places defensible by nature, or stockaded with stakes, prickly shrubs, or trees, apparently more for the protection of their cattle than of their wives and children. This defence was, in the time of Drury at least, absolutely necessary, owing to the continual warfare between neighbouring tribes, caused by disputes as to cattle or women, agreeing well with the description of Kafir life depicted by South African travellers. The incidents of this warfare are the same. The object in each case is the capture of cattle and slaves—the grown men being nearly always killed, while the women and children are almost as universally spared. These peoples are not, however, absolutely barbarous in the conduct of their armed disputes, as, among both Madecasses and Kafirs, ambassadors are employed to negotiate treaties of peace or alliance, and the persons of these ambassadors—men chosen for their great ability and intelligence—are inviolable. The domestic slavery of Madagascar, one of the effects of their unsettled state, is purely African in its character. The slaves are kindly treated; and the description given of this institution by eye-witnesses reminds us strongly of the domestic slavery as found by Du Chaillu in operation in Western Africa. In Madagascar, the chief of the tribe is almost absolute in power, and he is often treated with the utmost servility. Drury states that the wives and subjects of the chief licked his feet when they came into his presence. This custom has its counterpart in the grovelling respect exacted by the Zulu chiefs from their subjects; and the Kafir chiefs generally are not less despotic than those

of the Madecasse tribes. One prerogative which the head Kafir chief retains in his own hands is the sentencing to death of persons guilty of a crime, and this prerogative is in Madagascar restricted to the sovereign. The mode in which the public affairs of the tribe are managed is much the same among both Madecasses and Kafirs. The chief hears and decides all disputes in person, the parties being their own advocates. Certain influential men, however, are his recognised councillors, and these among the Kafirs are called the "eyes," "ears," etc., of the chief. Almost the very same title is found in use among the Hovas of Madagascar, who call the king's councillors *menamaso*, or "red eyes." Although the chiefs are irresponsible for their actions, some restraint is placed on them by the fear of losing their subjects, it being customary, among both Madecasses and Kafirs, for these to change their tribe if they do not approve of their chief's conduct. The chief, therefore, calls in the aid of the conjurors or sorcery-doctors, who decide by omens on the course to pursue under given circumstances. Drury shrewdly suspected that the Madecasse *omb-iasses* or *um-osses* were in the pay of the chiefs, and there can be little doubt that the same must be said of the sorcerers among the Kafirs.

An important point in which the Madecasses resemble the Kafirs is their religion. From the information given us by Mr. Ellis, there can be no doubt that the *fetichism* which is so extensively spread over the African Continent is equally influential in Madagascar. The special point of religious contact, however, between the Kafirs and the Madecasses is ancestor-worship. Mr. Ellis affirms of the latter that "their own religious creeds teach them to regard the spirits of the earliest ancestors of their ruler as among the chief objects of religious homage, and hence also a sort of sacredness is supposed to belong to the reigning monarch, as descended from their gods." This account refers to the national religion of the people, but it is evident from Drury's narrative that each family has its private gods, who are in reality the spirits of its ancestors. These spirits have offerings presented to them, and they are prayed to for protection and guidance, and are sworn by as though they were gods. Now, exactly the same ideas as to the influence of departed spirits are prevalent among the South African tribes. Casalis says of the Basutos that, while the tribe in its entirety has for its national gods the ancestors of the governing chief, each family is under the influence and safeguard of its own ancestors. Immediately a person dies he is placed among the family gods, and a sacrifice is offered on his tomb. This is equally applicable to the Zulu Kafirs, who have an unbounded "reverence for the spirits of their ancestors," and offer sacrifices to them, and, like the Madecasses, seek their aid in case of sickness. All the Kafir tribes, moreover, have, equally with the inhabitants of Madagascar, a belief in the existence of a great and Supreme Being, whom, however, they do not worship, as they think he does not concern himself with the affairs of this world.

In their other superstitions, the Madecasses and Kafirs have great resemblance. Both have the most implicit faith in witchcraft and in the power of charms; and they both believe that sickness is caused by the influence of the spirits of the dead, to whom sacrifices are

offered to avert it. In connection with this subject may be mentioned the importance ascribed to burial. The performance of the ceremony has a religious significance, seeing that the spirits of the dead are supposed to be capable of affecting, injuriously or otherwise, the living. The propitiation, by offerings at the time of burial, and afterwards by sacrifices, is a natural result of this belief. We need not be surprised to find, moreover, among the Madecasses, with whom not merely burial, but burial with their ancestors, is of so great importance, the West African custom of cutting off the head of a chief who has died at a distance from home that he may have his place among the family gods. Criminals among the Madecasses are not allowed burial; and Drury relates that the bodies of enemies killed in battle were cut to pieces that they might not be buried. So, among the Zulu Kafirs, burial is refused to all those killed by order of the king, although instead of their bodies being cut to pieces, they are merely thrown into the bush, where they are eaten by the vultures and hyenas.

The superstitious dread of the crocodile is a curious feature which the Madecasses and the Kafir tribes of South Africa have in common. According to Mr. Ellis, the former regard these animals "with strange feelings. They fear them, as possessed of supernatural power, invoke their forbearance with prayers, or seek protection by charms, rather than attack them..... Crocodiles' teeth are worn as charms; they are also made of silver or gold, and worn both for security and ornament; a golden crocodile's tooth being the central ornament in the sovereign's crown." This is among the Hovas; but the same superstitious feeling is prevalent among the other tribes. As to the natives of South Africa, Mr. Chapman says that all the Bechuana tribes regard the crocodile with "great dread and much aversion. They will not even look upon those animals if they can help it, for fear of some evil befalling them." A similar feeling is entertained by the Zulus, who have the utmost aversion for the flesh of the crocodile, it being "doubtful whether even the pangs of starvation would induce a Zulu Kafir to partake of such food, or to hold friendly intercourse with any one who had done so." This superstitious dread is even extended to other reptiles. Mr. Ellis says, as to the Madecasses, that "they seem to regard with a sort of superstition, almost amounting to dread, all serpents, crocodiles, or other dangerous reptiles, which they carefully avoid injuring, under an apprehension of experiencing retaliation, either from that identical reptile, or from some other of its species, at a future time." The deference paid by the Vazimbas to the lizard (among other reptiles) is noted by Drury; and superstitions relating to this animal are common to many tribes of South Africa, —among them, the Damaras, who will not eat it for fear of losing their strength. The Kafirs believe that the spirits of the dead revisit them under the form of the lizard. They have the same notion as to the serpent, which animal, therefore, they are fearful of injuring; and probably a similar idea is the cause of the great veneration which, according to Lieutenant Oliver, the Madecasses have for snakes. The superstitious regard for oxen is another point of affinity between

the Kafirs and the Madecasses. That the killing of these animals on the death of a chief has a religious significance is shown, not only by the custom of hanging their horns over the grave, practised by the Madecasses, as well as by various South African peoples, but also from the fact that oxen are the ordinary objects of sacrifice. Among the Zulus, the most sacred place of the tribe, that where the bodies of the chiefs are buried, is the *isi-baya*, or cattle enclosure, in the centre of the kraal. Into this enclosure women are not allowed to enter, nor are they permitted to milk the cattle. According to Casalis, the care of oxen is considered by the Basutos a noble occupation, and worthy of persons of the highest rank. So, as we learn from Drury, that some of the Madecasses would not touch the flesh of one of these animals unless it had been killed by a person of royal blood.

Another curious point in which South African customs agree with those of Madagascar is the establishment of a system of purification, chiefly by water. Mr. Ellis has given a graphic account of the ceremony of bathing by the Queen of the Hovas at the new year's festival, this being followed by the bathing of all the people. Flacourt mentions ablution as one of the rites attendant on the ceremony of circumcision; and probably, if we were more intimately acquainted with the private customs of the Madecasses, we should find this system of purification more fully developed. M. Casalis says that the prayers offered by the Basutos to their ancestors are always accompanied by lustrations; and, among the Zulus, purification by water is undergone by the inhabitants of a kraal after burial. Another mode of purification used among the Basutos is by fire; and traces of this superstition are found among the Madecasses, not only in the burning of portions of sacrificed cattle, but also, as related by Rochon, in the treatment of sick persons.

The Madecasses are extremely superstitious, using the *auli*, or instrument through which the spirits are consulted, on every emergency; and no one can read the descriptions given by Dos Santos of the character of the inhabitants of Sofala, without being struck with their resemblance to the Madecasses in this respect. This writer says that the Kafirs "never begin any the slightest affair, neither sow, plant, nor set out on a journey, without consulting, by casting lots, on the fate of the expedition." They are, moreover, specially addicted to the use of charms. A favourite charm of the Kafir soldier is a piece of a particular kind of wood. When he goes to fight "he takes care to have his enemy-charm ready for use, and, just before he enters the battle, bites off a portion of the wood, masticates it thoroughly, and then blows the fragments towards the foe, confident that he is thus taking away from the courage of the enemy and adding the subtracted amount to his own." This has much analogy with a curious custom of the Madecasses described by Drury, and in which he had on one occasion to take part. Before their army is carried, fixed on the top of a stick, a powerful charm, which, if thrown towards the enemy as soon as the fighting begins, is supposed to cause their defeat.

These peoples agree no less in their domestic habits, many of

which are incident to the pastoral condition. This is a very important characteristic, and it clearly identifies the Madecasses with the pastoral tribes of South Africa; a view which is confirmed by the fact, stated by Mr. Ellis, that the names of the domestic animals of Madagascar are African. Great ingenuity in the working of metals is another point in which the Madecasses resemble the Zulus, and their neighbours the Bechuanas and Basutos, all of whom are first-rate blacksmiths. The bellows used by these various peoples are of exactly the same description, although it must not be forgotten that similar bellows are to be met with throughout the Malay Archipelago and the African Continent generally. It is strange that the blacksmith should so often be looked upon with a certain degree of awe and dread. Among the Basutos the aspirant to a knowledge of the mysteries of the "black art" must pass through a process of initiation, while in Madagascar a particular clan or caste—the Zanakambony—is exempt from doing any work for the sovereign, other than that connected with the forge, as though to mark the importance of the blacksmith's craft. There is one other custom which is interesting as connecting the Madecasses with South African peoples, although it appears to be no longer found among the latter. I refer to cooking by means of hot stones. This custom is mentioned in the Zulu nursery tales collected by Dr. Callaway; and Professor Max Müller has cited it as one of the proofs that the Zulus and the Polynesians, who still follow the same practice, were at one time in close contact. There is no occasion, however, to go so far as this for the comparison, as Drury distinctly describes this mode of cooking as existing among the Madecasses during his stay in the island.

In concluding this part of my subject, I would refer to certain defects of character which seem to link the Madecasses to the peoples of the African Continent. These are the propensity for thieving and lying, as mentioned by Mr. Ellis, and female unchastity, which, according to Captain Wilson, is characteristic of the Sakalaves, though, from Lieutenant Oliver's statement, no less so, apparently, of the other Madecasse tribes.

While affirming that this comparison confirms the conclusion as to the African affinity of the Madecasses derived from their physical characteristics, I do not deny that many of these customs are found also among the dark tribes of the Malayan Archipelago. In fact, it would be a wonder if it were not so, although the agreement of the Madecasses, in this respect, with the Eastern peoples cannot be so close as with the tribes of South Africa. This is required by the pastoral character, which, although so characteristic of the Madecasses, is wholly wanting to the Papuans. Certain points of agreement between these latter peoples may now be shortly referred to, although, owing to our imperfect knowledge of the Papuans, this can be done but very imperfectly. Thus, there is a general agreement in the tribal Government, and in the position occupied by the chief, as an almost absolute ruler and of sacred dignity. The Papuans, like the Madecasses, have sorcery-doctors, whose functions appear to consist chiefly in the communing with spirits and the preparation of charms. There is a

general agreement, moreover, between the religious notions of the dark tribes of the Malayan Archipelago and Polynesia and those of the Madecasses. Among all these peoples a gross *fetichism* exists, arising from the belief in the interference of unseen spirits in the affairs of men, many of these invisible agents being the spirits of the dead. In some cases, the veneration for their ancestors is the only approach to a religious feeling the Papuans, like the Madecasses, possess. Similar ideas, also, are current among these peoples as to the origin of sickness, and the necessity for the propitiation of the spirits who are believed to cause it. The peculiar superstition in relation to the crocodile is not foreign to the Malayan Archipelago, nor even to those parts of Australia where this animal is met with. In Polynesia, where the crocodile does not exist, the superstition appears to have been transferred to the shark, the teeth of this fish being used as charms. Even in regard to the lizard there seems to be something of the same superstitious feeling as that which we find connected with this reptile in Madagascar. Thus, by the Maories a green lizard is "held in the greatest veneration as a living representative of divinity"; while, on the other hand, the Aborigines of Australia have a superstitious dislike to certain species of this animal, and kill every one of them they meet with, reminding us of a similar custom among the Kafirs in relation to the chameleon and the iguana. Other superstitions which the Papuans, or at least the Polynesians, have, in common with the Madecasses, are circumcision and purification by water—peculiarly enough, the bathing of the king on his inauguration and a kind of infant baptism—the belief in unlucky words and numbers, and the *tapu* of certain words.

It is now time to consider whether the mutual affinity of the Malays, Hovas, and Hottentots, as representatives of the light tropical race living in contact with dark peoples also related, can be established. The first point of inquiry is the physiognomy, and so far as colour and general facial contour are concerned, the testimony of travellers appears to be almost conclusive, if we may judge from the common resemblance of these several peoples to the Mongolic type. Mr. Wallace tells us that the Chinese living among the Malays of the Archipelago cannot, when they wear the native dress, be distinguished from the natives themselves. Again, the Hovas are said by Lieutenant Oliver to be in appearance allied to the Malay, "with Mongolic affinities," which can only mean that they approach nearer to the Mongol type than do the Malays themselves. M. Charnay—with whom Mr. Ellis would on the whole probably agree, notwithstanding the Polynesian similarity of feature which he observed among the Hovas—considered these people to be of Malayan origin. The opinion of Sir J. Barrow as to the Mongolic features of the Hottentots is well known. In this most other writers agree, and I think it is Mr. Fleming who says that it is difficult to distinguish, by the test of mere physiognomy, the Malays settled at the Cape of Good Hope from the civilised Hottentots. The latter have a peculiarity which associates them more closely with the Mongols than either the Hovas or Malays. Mr. Wallace says that the last-named people never present the obliquity of the eye which is so distinguish-

ing a mark of the Mongol, and the same is true, if I mistake not, of the Hovas. This peculiarity is, however, often met with among the Hottentots and the allied Bosjesmans, and, curiously enough, the same physical character is sometimes found among the South Sea Islanders. The light peoples we are comparing appear to present less agreement in the hair than in other physical characteristics. The hair of the Malay is straight, like that of the Mongol, and this is the usual character of the Hova hair, although the latter is occasionally frizzled, and approaches, therefore, the African type. The hair of the Hottentot is of this type, and it is remarkable, moreover, for a peculiarity which it possesses in common with some members of the Kafir race, and with another dark race, that of the Papuans of the Malay Archipelago. The "tufted" arrangement of the hair referred to would appear also to have been found among the Tasmanians, and if the hair could be depended on as a racial character, this fact would be valuable evidence in support of a fundamental connection between these peoples. I question much, however, whether it can be employed otherwise than as a confirmatory test. How far the evidence furnished by a comparison of crania agrees with that derived from other physical data may be doubted. I have already mentioned that the Madecasse skull is dolichocephalic, although not so much so as that of the South African, while the Malay skull is brachycephalic. The general conclusion, therefore, as to the cranial affinity of the Madecasses, is that they more nearly approach the African type than that of the Malays. This applies to the Madecasses as a whole, but a comparison of a Hova skull in the Museum of the Anthropological Society of London with certain South African skulls, furnishes a particular confirmation of this general conclusion. For the data of this comparison I am indebted to my friend Dr. C. Carter Blake, who says:

"The Hova skull presented by Dr. Sampson Roch is that of a young individual, the *dens sapientie* being just cut. It is a skull of great length, the proportions being

Greatest length (glabellæ-inial)	...	...	175	millimètres.
Greatest breadth	...	...	127	"
Cephalic index	...	...	725	"
Facial angle	...	...	82°	"

The appearance of the frontal bone and the general form of the skull exhibit the condition termed by Welcker *scaphocephalus*. Great frontal prominence exists, especially at the points immediately above the orbits. The contour of the skull is thus altered in such a manner as to demonstrate that the chief cause of the projecting and high forehead is due to the abnormal condition termed *scaphocephalus*. The coronal suture is remarkably open, as, indeed, is the sagittal, though to a less extent. The glabella is remarkably flat, and the nasal bones are much broader than in the Malay skulls with which I have compared the Hova. The orbits are more rounded, and their external inferior portions are more depressed in the Hova than in the Malay. In fact, the type of skull is as different as possible. Barnard Davis (*Thesaurus Craniorum*, p. 218) gives 78 as the cephalic index of a Betsimasara skull, of which he also says that "it appears to be less dolichoce-

phalic than the races of the Continent of Africa, and such seems to be the general character of the skulls of the peoples of Madagascar." The most complete investigation of the skulls of the eastern coast of Africa is that which I believe Professor Busk has made from the very large collection of eastern "subtropical negro" skulls from the coast of Zanzibar, brought over by Captains Burton and Speke. As Professor Busk's excellent researches are yet unpublished, I merely allude to them. But, without going into details, I would call the attention of anthropologists to the great resemblance which exists between the Hova skull before us, and many of the Eastern African skulls in the College of Surgeons. They agree in every possible character. The fact is there exists a considerable amount of variation in the "negro" skull; and the characters, which are truly predicable of the West Coast African negro, are far from being equally true of the negro of Mozambique. To judge from the skull alone, the Hova seems far more nearly allied to the negro of the mainland than to the Malay, or any other Eastern race."

In this general conclusion I quite agree, although (probably in opposition to Dr. Blake's opinion) I do not believe, judging from mere observation, that there is any very great difference between the form of the Hova skull and that often presented by the Hottentot—certainly not so much as between the crania of the Kafir and of the West African negro.

In comparing the mental characteristics and customs of the Hovas with those of other light peoples of the tropics, we can hardly, owing to the length of time during which the former must have been separated from the Hottentots, expect to find much agreement. There are certain points, however, such as the pastoral character, and the practice of circumcision which the latter have, or at least had, in common with the Hovas; but these are also found among the Kafirs. As to circumcision, this rite appears to have been given up by the Hottentots soon after they came in contact with the Dutch. This, doubtless, was owing to a peculiar facility they have in adapting themselves to European customs, in which they well agree with the Hovas. This is particularly noticeable as to dress; the Hottentots, Mr. Fleming tells us, unlike the Kafir, readily assuming the European costume. It is, indeed, in general character, rather than in special customs, that the Hovas and Hottentots agree. Thus, M. Charnay says that years of oppression have caused the Hova to become sullen, suspicious, cunning, cruel, and treacherous, and now, during the thirty years which have elapsed since they became masters of a great part of Madagascar, "they have decimated the unfortunate natives, and exercised without pity the rights of conquest," on the slightest appearance of rebellion treating them with great cruelty. This characteristic is shown also in the treatment of criminals. M. Charnay admits that the Hovas are "subtle politicians, great diplomatists, and very clever," although apparently not so "intellectual" as the other Madecasses. "If a Hova," adds this French traveller, "makes a present, he expects it to be returned with interest; if he offers you his hand, it is that you may put something in it; he adores money, and it is the only supreme

good he recognises. He is deceitful, proud, cowardly, insolent, and dull." There appears to me to be much in this description of the Hovas which would suit the Hottentots and Bosjesmans. These likewise were in contact with a dark race who undoubtedly are allied to the Sakalaves of Madagascar, and the Bosjesmans especially have become a "sullen, suspicious, cunning, and cruel" people. This may possibly have been the result of oppression, and it is quite consistent with most determined courage in resisting the assaults of their enemies, as was always undoubtedly the case with the Hovas. The Hottentots also are not despicable warriors, as may be seen by their conduct as against the Kafirs in the war of 1847. The most striking analogy between the Hovas and the light tribes of South Africa, however, is presented by the case of the Namaquas. This people, under the leadership of Africaner, successfully opposed the Dutch boers and overran great part of South-West Africa. They have subdued the Damaras, who experience from them much the same treatment as the other Madecasse tribes meet with at the hands of the Hovas. Mr. Baines says that "a Hottentot thinks as little of a lie as he does of a Damara's life." In fact, the Damaras are either killed in cold blood, often with circumstances of great cruelty, or else reduced to slavery, while the Namaquas subsist on the plunder gained in their predatory expeditions. At the same time, the latter would appear to have established a semblance of state government, and, like the Hovas, to have taken to the dress and various customs of Europeans. There cannot be much doubt that the Hottentots, as a whole, bear the same relation to the Kafirs as the Hovas bear to the dark tribes of Madagascar, and that the Hottentots and Hovas have an affinity is not so improbable as might at first sight appear, when we consider the supposed connection of the latter with the Vazimba. It is well known that the Hottentots at one time spread much further north in Eastern Africa than they do at present, and that many of the local names of that part of the country now occupied by the Kafirs have originated in the language of the former people. Whether or not these names reach so far north as Mozambique I do not know, but many words are there found which are related to the name of the Vazimba of Madagascar.

I have not been able to point out any very special points of agreement between the Hovas and the Hottentots, but this is sufficiently accounted for by the length of time during which these peoples must have been separated. It is, indeed, undoubtedly among the more civilised people of the Malayan Archipelago that we must seek for special Hova affinities, and we may find the proofs of this in a quarter hitherto, I believe, little suspected. No one can read Sir J. Bowring's valuable work on Siam, without being struck by the similarity of many of the customs mentioned by him with those of the civilised inhabitants of the Malay Archipelago. With a double object, therefore, I propose to compare the Hovas with the Siamese, instead of with the Malays themselves, and we shall find many phenomena which point to an affinity between these peoples. The absolute power and sacred character of the sovereign, with the great reverence for authority, which distinguish both these peoples, may, perhaps, be considered as essentially eastern.

It is strange, nevertheless, that as when the Hova sovereign is abroad all his subjects have to turn out of the path-way, so the Siamese "must prostrate himself with his face flat to the ground, turning his back to the company till they are out of sight." There is a curious similarity between the oaths of allegiance in Madagascar and Siam which can hardly be so explained. According to M. Condé, in the latter country, when the mandarins are assembled in the proper temple for that purpose, the priests "take pure water over which they make prayers and perform sacrilegious ceremonies, afterwards plunging into it the sabre and arms of the king. This done, the mandarins call upon the idol and other gods to witness, while they drink a little of the water, which, through the prayers of the talapoins, has the power of destroying all who become traitors to the sovereign." The usual oath taken by the pagan Sumatrans, as described by Mr. Marsden, much resembles this. The ceremony consisted in placing "an old rusty *kris*, a broken gun barrel, or any ancient trumpery, to which chance or caprice has annexed the idea of extreme virtue," in water, which the person who swears drinks off, after having pronounced a certain form of words. This, as Mr. Marsden points out, is also a Madecasse ceremony, and the oath of allegiance is evidently only a modification of it. According to Mr. Ellis, this oath, when taken by the members of the Royal family, consists in piercing a calf with a spear, and in striking, apparently with this weapon, water, a portion of which is then drunk by the person taking the oath. The superstitious use of water in other cases is common to these peoples. The belief in lucky and unlucky days is also common to them, and the agreement extends to the dislike of *even* numbers, against which both of them have an absurd prejudice. The religion of the Siamese, apart from their reception of Buddhism, is of much the same character as that of the Madecasses. It consists in the propitiation of spirits, who are supposed to people the waters, the forests, the air, and answering to the elemental spirits, in the existence of which, according to Flacourt, the Madecasses believe. The Hovas celebrate the beginning of a new year with a great festival, which lasts three days, and it is strange that exactly the same custom is prevalent among the Siamese. The superstitions as to certain animals are much the same among both these peoples. Sir John Bowring says that he saw several proclamations in Siam, against the killing of oxen and buffaloes, while crocodile-charming and serpent-charming are regular occupations, betokening the existence of superstitions connected with these reptiles. The modes of punishment employed by these people may also be cited. Spearing is the usual mode of inflicting death, but among the Siamese it is not lawful to shed the blood of a nobleman—nobles are killed by beating; and so among the Madecasses royal personages are strangled when put to death, it being forbidden to shed their blood. Probably, also, it is for this reason that persons of rank are suffocated under similar circumstances. There are several burial customs in which the Siamese and Madecasses undoubtedly agree, the most curious of these being the mode of preparing the body for burial, the putting of a piece of money into the mouth of the deceased, and the placing of lighted candles

near the coffin. The Siamese, moreover, shave the head as a sign of mourning, this custom being universal among the Madecasses on the death of a sovereign. There are certain Malay customs which I have not referred to, because they are not peculiar, among African peoples, to the Madecasses, or among them to the Hovas. The Abyssinians especially show many points of agreement with the Madecasses, and also with the South African tribes, and even with Eastern peoples, but time will not allow me to dwell on them.

I have reserved the consideration of the question of language affinity until the last, because it is impossible to distinguish in this respect, as, indeed, in most others, between the light and the dark tribes of Madagascar, so as to make any separate comparison of their dialects with those of the analogous peoples in other parts of the world. The universal testimony of those who have come in contact with them is that all the Madecasse tribes speak dialects of one and the same language. Mr. Griffiths says that the Ankova dialect "has many words that have the same orthography with the other dialects, but different signification, yet they bear a close analogy, and other words that have the same signification, have certain letters either exchanged, or added." The diversity of meanings for various words met with in these dialects furnishes a strong proof of their fundamental connection, and yet of their separate development; and the source of it is easily discoverable. Mr. Griffiths affirms that many words and expressions in Malagasy have two significations, the literal and the figurative, and, on comparing the examples he gives, it is evident that one of these meanings has occasionally been lost, one dialect retaining the literal and another the figurative meaning. An analogous process may have taken place to cause the use of different words for the same object; this having arisen from the perpetuation by the several tribes of one or more only of the many words, to denote a particular object, which the original stock possessed. There is no difficulty in understanding how this could be, when, even now, Malagasy, according to Mr. Ellis, has "twenty different words for expressing the manner of growth of the horns of an ox, and thirty words to signify the several modes in which the natives plait their hair." It is according to this principle that we can explain a similar phenomenon which presents itself on a comparison of Malagasy with the dialects of the Malay Archipelago and of Polynesia, there being certain words in Malagasy which are also common to several Polynesian dialects, but which are not possessed by the Malay.

It is impossible, within the limits of this paper, to treat fully of the affinities of Malagasy, and this is the less necessary, as its connection with the Malay-Polynesian dialects is admitted on every hand. I will, for the present, therefore, dismiss these dialects, after saying that the affinity of the Malagasy with the Malay would seem to be almost purely verbal. Mr. Griffiths, indeed, says that "Malagasy bears some analogy to the Malay and the Arabic in the sound and signification of many of the words, and in the inflections of certain verbs." To this, I would add that some of the Malay verbal prefixes are clearly the same as those of Malagasy, and that a connection may be traced between the

pronouns of these languages. I do not doubt that all these languages—including those of South Africa—are fundamentally connected; and when, therefore, Mr. Griffiths says that Malagasy has no affinity with the latter, I entirely dissent from him. Even Mr. Ellis admits that “there appears to be a resemblance, amounting to identity, between a number of words used by the Malagasy, and the natives of the Mozambique coast, and the interior,” although he denies that, “excepting in the great regard paid to euphony,” there is any verbal or grammatical resemblance between “the Malagasy and the languages spoken on the eastern coast of Africa, to the southward of Dalgoo Bay.” This latter conclusion is, however, directly contrary to what we should expect, judging from the admitted connection between the Kafir tribes and the natives of Mozambique, and from the agreement of all these peoples with the Madecasses in other respects, and it is, in fact, incorrect. I have made both a verbal and a grammatical comparison of these languages, and I am able to say that not only have the Kafir dialects many verbal agreements with Malagasy, but that, notwithstanding a very marked general dissimilarity of structure, they have certain grammatical features in common, which show their fundamental connection. Among many other words which appear to be the same in the Kafir dialects and the Malagasy (the latter taken from Dumont D’Urville’s Vocabulary), the following may be cited; it being remembered that the first syllable of the Malagasy verb is simply a prefix.

	MALAGASY.	KAFIR.
To annoy	matakatz	uku kataza
To arrest	sambour	uku bamba
To beat	miadi	uku beta
To cry	mizala	uka lila
To go	nomb	uku hamba
To increase	manontoh	uku anda
To report	mizakh	uku sika
To touch	manapatsapa	uku pata
To trade	mivanga	tenga
Woman	ompisaf	umfazi
Infant	zana zanak	usana
Seed	voua	imbeu
Much	foutak	udakee
Death	fat	uku fa

Mere verbal agreement, however, is not now considered sufficient; and it is necessary to be prepared with similarity of grammatical structure before actual affinity will be admitted. It appears to me, nevertheless, that too much stress may be laid on the latter point. The real test is not in a mere *structural* agreement, but in the similarity of the means by which the several grammatical forms are distinguished. Probably the laws of the evolution of all languages are the same; but when these languages are widely separated the distinctive signs which give their value to the grammatical structure may be quite unlike.

The peculiarity of the Kafir dialects consists, as is well known, in the elaborate development of a system of prefixes, and it was at one time thought that this peculiarity separated them from all other

languages. Doehne, however, has shown that these prefixes are, in reality, primitive words, "pronouns, in the present state of the language, used as *nominal forms*, compounded with other words." As a *pronominal* language, therefore, the Kafir dialects are—Doehne adds—"of common descent with those of the remotest Northern tribes, from the Suaheli down the coast to immediately south of the Equator, which have the bulk of their several languages in common." If this is so, the peculiar system, forming what is called the *euphonic concord*, must have been developed after the separation of the Kafir dialects from others primitively connected with them. It is evident, therefore, how small a resemblance in grammatical structure there must be between these dialects and a language, such as the Malagasy, which has taken a totally different course of development. Nevertheless, there are, I think, various points in which a grammatical affinity between these languages can be established. Such is the regard for euphony, referred to by Mr. Ellis, and which it is not at all unlikely may have been the originating cause of the peculiar formation presented by the Kafir dialect. This regard for euphony shows itself in Malagasy in the mutation of certain consonants when they follow others, and it is curious that three at least of these changes are found also in the Zulu dialect. Thus, while under these circumstances, in the former, *z* is changed into *j*, *s* into *ts*, and *h* into *k*; in the latter, *nz* becomes *nj*, *s* becomes *ts*, and *hl*, *kl*. Probably, the regard for euphony also led to the terminating of every Kafir word with a vowel, a rule, the operation of which in Malagasy, gives, according to Mr. Ellis, "a peculiar softness and harmony to the tones of the native speech." Another point of agreement between these languages is found in the absence of any inflections for the distinction of male and female, and the use of distinct words to denote objects of different genders. There is a similarity also in the means employed to effect a certain change in the force of nouns, although the result is different. Thus, in Malagasy, the repletive *ra* is prefixed to the names of persons to denote respect and superiority, while in Zulu the affixing of the same particle to nouns of comparison indicates a *diminution* of quality. Again, while in Malagasy the reduplication of a noun or adjective gives it a *diminutive* signification, this effect is obtained in Kafir, in both adjectives and nouns, by affixing *ana* to the root. This particle is, however, used in the formation of *intensive* adjectives in Malagasy, where it appears to be found in the word *anak*, small, seen in *zana zanak* an infant. Another curious point in which these languages agree is in the use of the particle *ka*, which in Kafir is "occasionally prefixed to adverbs with an intensive or conjunctive force," and *nga*, which is "often prefixed to prepositions and adverbs with an intensive or expletive force." *Nganga* is a reduplicated form of *nga*, used in the first comparative form of nouns; *ngenga* being used in the formation of the second comparative form. Now, in Malagasy there is not only an *intensive repletive*, *akory*, but also an *optative repletive*, *enga-ka*, both of which are used to enhance the signification of words to which these are joined, and the latter of which seems to agree with the Kafir indefinite adjective *ngaka*.

The Kafir system of pronouns is most perfect, and the Malagasy, as is evident from the grammatical structure of the language, cannot furnish anything to compare with this elaborate system. The third person of the Kafir personal pronoun, which takes sixty-two different forms, is, as appears to be the case in nearly all primitive languages, derived from the demonstrative pronouns which have nine principal and eight compound forms. In Malagasy there is nothing to approach this, but a comparison of some of its demonstrative pronouns with those of the Zulu reveals a connection between them. Thus, the fourth species of Kafir demonstrative pronouns, has *esi*, this, and *ezi*, these; while in Malagasy we have *ity* and *izato*, this, and *izatoana* (the latter syllable being the intensitive particle), these, and also *izao*, this or these. Moreover, the third personal pronoun is in Malagasy *izy* for the nominative, and *azy* for the objective, of both the singular and the plural. Again, the relative pronouns in Zulu are derived from the demonstrative pronouns which express *this* and *these*, which we have seen to be, in the fourth species, *esi* and *ezi*, and the relative pronoun is "often used as a simple demonstrative pronoun expressing that or those." In Malagasy, *izany* is both the relative pronoun *that* or *which*, and also a demonstrative pronoun denoting either *this* or *that*, *these* or *those*.

The great difference between the modes of conjugating the verb in the Kafir dialects and in the Malagasy, renders it almost impossible that they can have any special grammatical features in common. The use of pronominal affixes in the adjunctive form of the Malagasy passive verb, which with a passive form has an active signification, would, however, seem to make an approach to the Zulu pronominal conjugation of verbs. In both these languages, too, the verb appears to be equally capable of multiplying its forms. Thus, the Malagasy has five simple derivative forms, by combination of which nineteen different inflections may be made. The Zulu Kafir verb has five simple derivative forms, besides its primitive form, by the combination and inflection of which numerous other forms may be obtained. It is possible that a point of agreement may be found in the formation of some of the tenses, and that the Malagasy *efa*, done, completed, which is used to form the compound tenses of its verbs, may be allied to the Zulu auxiliary *ba*, to be, which is used for a like purpose. Moreover, in both Malagasy and Zulu the participles have tenses like those of the indicative mood of the verb.

The root of the verb in Malagasy appears to be found in the infinitive mood, while in the Kafir dialects the infinitive differs from the root only in the use of the prefix *uku*. This particle is, according to Dohne's system, a primitive noun, expressing, however, a mere state of action without circumstance of any kind. Now, although we do not find the same particle in Malagasy, yet among the prefixes employed to give the *transitive* form to verbs is *mang* or *mank*, which would appear to have the same operation as the Kafir *uku*. A similar change in form to that exhibited by these particles is seen in the demonstratives *oko* and *oku*, that and this, in Kafir, which in Malagasy are represented by *engh*. There would appear to be a connection of

the same kind between a Malagasy and a Kafir nominal affix. Among the words I have compared are *ompisaf* (Malagasy) and *umfazi* (Kafir) woman. Of these words, the last part is the root, "fazi," meaning in Zulu, *feminine*. This prefix *ompi* or, as, probably, it was originally, *omp*, is found in other Malagasy nouns, such as *ompivang*, a trader, *ompitrouss*, a debtor, and apparently implies a human agent. Now, the prefix of the sixth species of Kafir nouns *um* has the distinction that it, alone of all the prefixes, "follows different analogies as it belongs to nouns representing persons or things." These prefixes must have had a starting point for their development, and I think it is not at all unlikely that we have in the particles *um* and *omp* different forms of the same primitive prefix. It is curious that, as the prefix *uku* would seem to be connected through the verbal infinitive, with the prefix, *mang*, of the Malagasy *transitive* verb, so *um* may be connected through the prefix *ompi* or *omp*, with the prefix of the Malagasy *causative* verb, which is *omp*. In concluding this comparison, I would point out one or two important proofs of the fundamental connection between the Malagasy and Kafir languages. Among the simple roots to which Doehne reduces all the Zulu words are *fa*, to blast, to die, and *va*, to come; and I find that in Malagasy *fat* means death, and *ave*, to come. Again, the Kafir particle *ze* is added to words to express the idea of "nakedness," while, in Malagasy, the word *sissik* means "naked." I shall have occasion to refer again to the Kafir *imali*, money, the origin of which word is still unsettled; but there are two other words deserving of mention here. The well known native dress of the Madecasses is the *lamba*, and I was surprised to find from Doehne's Vocabulary, that the ordinary garment worn during the day by the Zulus is called *hamba*, meaning, probably in both cases, simply the "walking" dress. Drury, in his "Adventures," gives *Unghorray* as the Madecasse name for God. Now, in East Africa, the name for the Supreme Being is *Mulunga*; at Tete, *Morungo*; among the Kafirs, *Uhlunga* or *Unkulunkulu*; while among the Damaras, it is *Omakuru*, all these names being closely related to the Malagasy word.

It is time now to make some comparison between the Malagasy and the Hottentot dialects, of which I will take the Namaqua for the purpose. Strange as it may seem, there is, so far as I can judge, as great a verbal affinity between the Hottentot and the Malagasy as between the latter and the Kafir dialects. The following words may be cited to show the character of this affinity, and many other words might be added. In the Namaqua, the letters *c*, *q*, *v*, *x*, represent the *clicks*, and in the Malagasy, the italicised syllable is the prefix.

	MALAGASY.	NAMAQUA.
To bark	<i>mihouha</i>	<i>qhu</i>
To be	<i>aho</i>	<i>hâ</i>
To beget	<i>maha</i>	<i>ho</i>
To carry	<i>miton</i>	<i>tani</i>
To continue	<i>hahei</i>	<i>hâ-bâ</i>
To feel	<i>mazapazapa</i>	<i>zâ-zâ</i> (to touch)
To grasp	<i>sambour</i>	<i>zubu</i>

	MALAGASY.	NAMAQUA.
<i>Clean</i>	mainou	ganu
<i>Cool</i>	nara	kara
<i>Eye</i>	mass	mus
<i>Fan</i>	raraf	zarip
<i>Foot</i>	pe	veis

So far as grammatical structure is concerned, it may be thought that the click language can have no affinity with the Malagasy. Features in common of this character are, however, not altogether wanting, although from the comparative simplicity of the *Namaqua* they cannot be numerous. Thus, although the latter differs from the Malagasy in the possession of signs of gender, yet we find that in both languages, when the masculine or feminine gender is required to be particularly shown, words denoting male or female are added to the noun, in the one case as an affix, in the other as a prefix. Both languages, moreover, possess a common gender which includes all nouns not specifically separated from the class to which they belong. These become defined in Namaqua by the addition of the sign of gender, and in Malagasy by adding the masculine or feminine adjective. Mr. Tindall says that "the only law which the Namaqua appears to follow in the imposition of gender upon things inanimate is that of euphony, and in some cases, that which is imposed by a certain distant resemblance or analogy to the natural distinctions of the two sexes." In the treatment of Malagasy nouns, which are said to belong to the *neuter* gender, the latter plan is adopted. These nouns become masculine or feminine when used figuratively, and the rule which governs the ascription of genders is that "when the noun denotes firmness, strength, or power, it is often expressed in the masculine gender, but when it denotes softness or productiveness it is expressed in the feminine gender." Malagasy and Namaqua nouns agree, moreover, in the possession of a dual number, whilst they differ in the use by the latter alone of case terminations. It is possible, however, that the Malagasy particle *ra*, which is used to give distinction to the names of persons, may be connected with the particle *ra* which in Namaqua is the sign of the dual of feminine and common nouns. Such a double use as this is seen in the Zulu word *kazi*, which is employed, not only as the feminine sign of gender, but also to indicate an increase of quality, as *ra* is used in the same language to denote a diminution of quality. The adjectives of Malagasy and Namaqua are equally wanting in the power of inflection. The pronouns, which are the most important words in relation to the grammatical structure of a language, offer certain analogies, although their development in Namaqua is far superior to what is found in Malagasy. Thus, in both languages the plural nominative and objective cases of the first personal pronoun possess the exclusive and inclusive forms. There would seem, moreover, to be a similarity in the roots of some of these pronouns. It is not difficult to connect the Malagasy *izy*, he, she, it, with the Namaqua *xši*, the personal pronoun of the third person. In both, moreover, the objective case is distinguished by the use of the letter *a*, and the nominative plural

in Malagasy *izareo* is evidently related to the feminine dual of the Namaqua pronoun which is *neira*. A similar form is used also in the plural of the Malagasy second personal pronoun to that of the feminine dual of the same pronoun in Namaqua. Thus in the former it is *hinareo*, you, and in the latter *saro*. This initial *s*, like the Malagasy *iz*, does not here belong to the root. The various forms of the second personal pronoun in Namaqua differ from the dual and plural forms of the first personal pronoun only in their terminal syllables, and a similar phenomenon presents itself in Malagasy, where it is evident that *hianao*, thou, *anao*, thee, are connected with the exclusive *anay*, us. The inclusive form of the Malagasy personal pronoun "we" is *isikia* in the nominative and *antsikia* in the objective. Now, the Namaqua first personal pronoun in its nominative form taken inclusively has *sakum* and used exclusively *sikum*, these being undoubtedly formed from the same root as the Malagasy pronoun. In fact, Dumont d'Urville gives in his Malagasy vocabulary two words for "we"—*nesika* and *sissen*—which almost perfectly agree with words having the same meaning, *sike* and *sisi*, given in Tindall's Namaqua vocabulary. In its system of verbs there is little in the Namaqua to attach it to the Malagasy, except in the great number of forms the verb is capable of taking. Thus, besides the primitive, it possesses eight simple derivative forms, several of which may again be combined. The similarity of subsidiary parts of speech is not so important, but I would mention that the Malagasy conjunctions, *sy* and *raka*, if, with *ka*, and then, appear to be reproduced in the Namaqua *zi* and *ka*, if. When we remember the interchange which sometimes takes place between the letters *l* and *m*, we may find the Malagasy interjection *lozala*, in the Namaqua, *muzo*, and the first word of the exclamation *akory izao*, has great resemblance to the Namaqua *okha* ! These Malagasy particles I have taken from Mr. Griffiths' Grammar, but others given by Dumont D'Urville also agree with the Namaqua. Such are the Malagasy *mou*, which, *si*, if, *i*, on, *ehe*, no, and *tsia*, never; Namaqua, *ma*, *isi* (whether), *ei*, *hê-e*, and *tazi*. Before ending this comparison, I would refer to certain words, the construction of which I have already mentioned as connecting the Malagasy with the Kafir dialects, and which may be used also in support of the affinity sought to be established between the Malagasy and the Hottentot dialects. These are the words having the prefix *ompi*, one of them being *ompitrouss*, a debtor. Now, in the Namaqua we find the word *Suruti-aup*, a debtor, which I have no doubt is the same as the Malagasy word. The prefix *ompi* and the affix *aup* (the latter being used in Namaqua for *men*) appear to have exactly the same sense, that of an active agent, and I have little doubt that they are derived from the same source, and if, as I imagine, the Kafir *um* is connected with these particles, we have in this an important point of affinity between all these languages.

But the grammatical affinity between the Malagasy and the Hottentot dialects is not so great as a comparison of vocabularies would lead us to expect. In fact they are not so precise as those which exist between the Malagasy and the Kafir dialects which possess fewer apparent verbal agreements. Probably this is to be accounted for by

the very early date at which the Hottentot family separated from the common stock, combined with the tendency which, owing to their grammatical simplicity, languages of this family have to preserve the roots of words unaltered. The Hottentot became a detached race most likely before either the Malagasy or the Kafir grammatical peculiarities were developed, and we may, therefore, perhaps see in the dialects spoken by that race a nearer approach to the form of the primitive speech of the stock, than either of the other languages exhibits. It is very probable, moreover, from the peculiar position occupied by the Hottentot in South Africa, that his language will be found to have a connection with the Kafir dialects, which would in itself furnish presumptive evidence of a still earlier contact with the Malagasy. Nor is the verbal affinity, at least, between the Hottentot and the Kafir dialects difficult to show. For instance, Doehne declares that the primitive roots of all Zulu words must have been verbs, and in the Hottentot dialects many primitive verb roots are still retained, several of which are evidently the same as Doehne's primitives. Such are Hottentot *be*, to go away, Zulu *ba*, to step forth; Hottentot *da*, to tread, Zulu *da*, to advance; Hottentot *va*, to slaughter, Zulu *fa*, to die; Hottentot *dau*, to flow, Zulu *ta*, to pour; Hottentot *ha*, to come, Zulu *hla*, to happen; Hottentot *na*, to bite, Zulu *na*, to meet; Hottentot *za*, to feel, Zulu *za*, to feel. The Kafir auxiliary verb *ma*, to stand, is also to be found in Namaqua with the same signification. Other words which these languages have in common could be named, although they do not now appear to be numerous. The most important to this paper are those which show a general connection between the Malagasy, the Kafir, and the Hottentot languages. Such is the word for "money." This in Namaqua is *mari*, which Dr. Bleek derives from the English word, although Doehne derives it from the Hottentot *ma*, to give, and *ri*, the first personal pronoun, literally "give me," and finally "that which is given to me." This may be the true origin of the Hottentot term, but Doehne traces the analogous Zulu term, *imali*, to the Arabic, and there does not appear to be any reason why these words, which differ only in the change of *r* into *l* as required by the Zulu pronunciation, should be assigned different origins. In fact, we have the very same word in the Malagasy *arien*, money, the original form having, probably, wanted the letter which appears as the affix *n* in Malagasy and the prefix *m* in the Zulu and Hottentot dialects. Another Namaqua word, which appears to have a somewhat similar relation, is the verb *koba*, to speak, which contains the same elements as the Malagasy *kabar*, the name for the Madecasse public and other meetings for discussion. It is curious that the Arabs, according to Mr. Palgrave, use the word *khotbah* in relation to a public discourse; and this may, perhaps, enable us to identify the name given by the Basutos to their place of public assembly, which is called the *khotla*, with the Namaqua *koba*, to speak. Other words might be added; but I will refer only to the Kafir primitive *za*, to feel, which we have seen to be found also in the Namaqua, and which the Malagasy has preserved in the verb *mazapazapa*, to feel.

The comparison here made of the Malagasy with the South African languages is very slight; but it is sufficient to show the existence of a connection between them, which extends to the dialect of the Hovas no less than to those of the other tribes of Madagascar. The greater grammatical affinity of Malagasy and Kafir dialects seems, however, to point to a more recent connection between these peoples than that furnished by the verbal agreement of the Namaqua. The grammatical affinities of the latter, however, derive importance from the connection between the Hottentot and the Kafir dialects. Probably, these languages were detached at different periods, the Hottentot appearing to stand to Malagasy in the relation of the Polynesian rather than of the Kafir dialects.

The almost universal relationship of the Madecasses, shewn from the preceding data, makes the question of their origin one of the most complicated that the anthropologist has to deal with. It might well be thought that the inhabitants of Madagascar were derived from the neighbouring continent. There are, however, several objections to this view. One, which has considerable weight, is, that the South African peoples, like the ancient Egyptians, have a great dislike to the sea; they having, moreover, no knowledge whatever of navigation. A more important objection, however, arises from the distribution of peoples on the African continent itself, especially when taken in connection with their relation to other peoples on the eastern margin of the Indian Ocean. The Hottentots (including the allied Bosjesmans) belong, it can hardly be doubted, to the great East African Ethiopic stock; bearing the same relation to some of the Kafir or Bechuana tribes as do the Hovas to the darker tribes of Madagascar. The Kafirs, and other members of the Ethiopic stock, show, moreover, in many of their physical characters, an affinity with the negro peoples, among whom we find, on the whole, the lowest type of man on the African continent. This type is, however, located in the extreme west, and yet, if we look for the lowest type of man absolutely, we find it in the Papuan aborigines of the Australian continent at the other side of the Indian Ocean, the Ethiopic peoples and those of Madagascar lying between the two. The Negro affinities of the Kafirs show that they cannot be an intruding people who have intervened between two branches of the primitive stock; and, therefore, according to any hypothesis of the unity of man's origin, the peopling of Madagascar from the adjoining continent would require a double migration of peoples over that area—one of the primitive stock from east to west, the Negro being its final deposit; and a reflex movement from west to east, reaching the Island of Madagascar, which we must suppose to have been passed over in the original movement.

There would not be this difficulty in peopling Madagascar from Australia or the Malay Archipelago, seeing that the most primitive peoples live on the margin of the Indian Ocean. There are, however, objections to this hypothesis equally strong. In the first place, most of these peoples, including the Malays themselves, have as great a dislike to the sea as have the South African peoples, and they are all,

apparently, nearly as ignorant of navigation. This assertion may be thought to be incorrect in relation to the Malays, as they are usually supposed to be a peculiarly maritime people. Sir Stamford Raffles, however, long since pointed out that this idea is erroneous, the so-called Malay sailors of the Archipelago being exclusively Javanese. The Javanese even cannot, with any certainty, be quoted as furnishing exception to the general rule, as they were so long under Hindu influence, and have been so much in contact with the Arabs, that their maritime taste may have been acquired. The same may be said of the enterprising Bugis of the Celebes. The notion of unintentional migration by means of an ocean current appears to me too wild a notion to be seriously entertained, even if there is such a westerly current as would be necessary for the supposed drifting of the progenitors of the Hovas from the Malay Archipelago. Moreover, their affinity with the other Madecasses would seem to furnish an insuperable objection to such an origin for the Hovas, unless a similar one be ascribed to the dark tribes also. Mr. Logan, who has had rare opportunities of judging of this question, points out another objection, which I have already had occasion to mention, although, perhaps, this would be removed if a continental origin for the Malay race could be established. He says that "the ideologic and glossarial analogies" between the Malagasy dialects and those of the Malay Archipelago, "are not confined to Java and Sumatra. The former are much more strong to the Formosan, Philippine, and Celebesian languages, and, to present all the Asianesian traits of both kinds, we have to go to Polynesia. The colony, therefore, must have traversed a large part of Asianesia to construct a language for Madagascar, and must, after all, have laid aside the great mass of its own vocables, and invented new ones." Mr. Logan, indeed, declares that the Hovas "are entirely African in their manners, customs, religion, government, arts, etc.;" and that their very name even is found in South-Western Africa, in "Ovampo" and other words, as the Vazimba, supposed to be extinct, may be identified with the tribes of the Zambesi basin, one of whom is still called Mazimba.

Judging from the preceding data, the Madecasses are, in my opinion, more truly autochthonous than any other existing race, except, perhaps, the aborigines of Australia. This notion is perfectly consistent with all the facts that have been observed, even as to the Malay affinities of the Hovas. The physical characters of the Madecasses strongly confirm this view; since, without presenting the extreme peculiarities seen among African and Asianesian peoples, they yet possess certain features in common with them all. At the same time, I much doubt, judging from the descriptions of various travellers, whether the physical differences among the Madecasses themselves are, as a rule (whatever may be the case as to individuals), nearly so great as is generally supposed. At least, there is apparently no abrupt division between the light tribes on the one hand and the dark tribes on the other. But, further, we appear to have, in the physical characters of this people, a key to the solution of the difficult problem of the origination of a fair race from a dark one, which

is furnished by the hypothesis of the unity of man's origin. Among the Madecasses, if we may believe the reports of various travellers, every gradation of feature between that of the European and that of the Negroid type may be traced.

According to this view, then, Madagascar would be a very early and important centre of human origin, the only plausible objection being the ignorance of the Madecasses in all matters relating to navigation. In this respect they agree perfectly with the inhabitants of Eastern Africa, with the exception, however, of the Sakalaves, who, even in Drury's time, had large canoes, in which they appear to have made piratical expeditions to the Comoros Islands, although there is reason for doubting whether these canoes were due to their own invention. The difficulty arising from the absence of means of transport across the channel which divides Madagascar from the adjoining main land, or over the ocean which separates it from the Malay Archipelago, may, however, be removed. That there was at one time land communication between Madagascar and the Malay Archipelago is no longer doubtful. The *Lemuridæ* are found not only in Madagascar, but also on the continents of Africa and Asia, and as far east as Celebes in the Malay Archipelago; and Dr. Schlater has suggested the name "Lemuria" for a now submerged continent which he supposes to have at one time existed between these distant points. Mr. Wallace, also, speculates on the past existence of such a continental area, to account for the curious fact that Celebes possesses various animal forms "which show no relation to those of India or Australia, but rather to those of Africa." Judging from its natural products, Mr. Wallace says that Celebes must be one of the oldest parts of the Archipelago; and he adds that "it probably dates from a period not only anterior to that when Borneo, Java, and Sumatra, were separated from the continent, but from that still more remote epoch when the land that now constitutes these islands had not risen above the ocean." This appears to me to have a very remarkable bearing on the question of the spread of human races in the sub-Asiatic area. For, as I have already shown on the authority of Mr. Logan, that part of the Archipelago, in which an affinity of dialects with the Malagasy is the most strongly marked, includes Celebes, extending northwards to the Philippines. Thus, while the distribution of the mammalia requires, according to Mr. Wallace's view, the non-existence of Borneo, Java, and Sumatra, at the time when Celebes was united to Madagascar, exactly the same supposition is required to account for the peculiar distribution in the same region of the races of man. Celebes is within Mr. Wallace's Papuan continental area, and even supposing that its inhabitants are, as Mr. Wallace asserts, Malay, yet they may have retained through a gradual admixture with the aboriginal population the linguistic peculiarities of the latter. The distribution of the Papuan and Malay, or the dark and light races, in the Malay Archipelago may be thus explained in exact accordance with geographical requirements; as it is the *dark* race with which the Madecasses are the more nearly related, and which inhabits the area supposed to have been at one time connected with this

island and with the African continent itself, thus bringing all the dark races of the tropics into actual contact. Unless this be so, it is almost impossible to explain the position of the Malays between the Papuans and the allied tribes of Madagascar, while the subsequent rise of the area of which the large islands of Borneo, Java and Sumatra are probably remnants, furnished a connection between the Malays and the primitive dark race such as their affinity requires, or rather a mode by which this race, perhaps after the formation among them of a light people, could spread over a more northerly area than that which it had hitherto occupied.

I have elsewhere set out fully the data from which the former existence of a sub-Indian continental area, probably within the human period, may be established, and I will not enter further on the subject here. That Madagascar must have formed part of this continent, if it ever existed, cannot be doubted. This is required by the character of its fauna and flora, but even more by the racial affinities of its human inhabitants. Before ending this paper, I would refer to another curious point in this relation worthy of serious consideration. Whatever distinction there may be between the natural productions of Madagascar and Africa, there can be no doubt that the Madecasses have the domestic fowl, the fat-tailed sheep, and the humped ox, found also among the African peoples, the species being the same, and even the names by which they are known not differing. Moreover, the African peoples who possess these domestic animals are exactly those who are most nearly related to the Madecasses, and who resemble them in being pastoral peoples. I would suggest the probability, therefore, that we have in Madagascar itself the origin of this condition of life, and, as introductory to it, of the domestication of animals. Let us add to this, that the Madecasses excel, equally with the cognate African tribes, in the smelting and working of iron; and we see that they have all the chief elements of progress at their command, although they have not been favoured by other conditions required for their perfect operation. Taking these facts into consideration, we shall not be far wrong if we conclude that, as Australia, or it may be a more westerly area, was the place of man's *origin*, so Madagascar, or some spot not far distant from it and further to the east, was the seat of man's *primitive civilisation*.

Dr. CARTER BLAKE, complimenting Mr. Wake on the importance of his paper, said that the author apparently endeavoured, after demolishing the theory of the Malay affinities of the Madecasses, to prove three theories: first, that the Madecasses were identical with the Eastern African negroes; secondly, that they were identical with the Kafirs; and thirdly, that they were identical with the Hottentots, or with those most degraded examples of the Hottentot race, which were termed Bosjesmen. Now, he admitted that between the Hova skull and the skull of the Eastern African negro there existed little difference, but a resemblance which could be perceived distinctly after examination of the enormous series of Eastern negro skulls derived from Quiloa and Zanzibar. These negroes differed entirely from the negroes of the Gold Coast; and it was the generalisa-

tion of Professor Owen that had shown us that there existed two types, at least, in the Negro race. And he would further admit that the Kafir race and the Eastern African Negro shaded into each other by imperceptible tints. But, when we extend Mr. Wake's argument, and examine the characters of the Hottentot and the Bosjesman, we see indeed a very different type. It appeared to him that the population of Southern Africa might be divided into two great divisions: the one comprehending the Eastern Negro, the Kafir, the Hova, and others; the other comprising the Hottentot and the Bushman. Still, Mr. Wake's paper was undoubtedly of the greatest value.

DR. CHARNOCK wished to know whether the author of the paper had compared the grammar of the Malagasy with that of the Malay. From a comparison of the two, he was inclined to think that there was but little in common between them. Mr. Wake stated that the vocabulary of the Malagasy agreed to a considerable extent with that of the Malay. This might be accounted for by the fact that both had borrowed from the Arabic. The author of the paper also stated that the manners and customs of the Madecasses agreed with those of the Kafirs; but had this originated in ancient or in modern times. If in modern times, it amounted to nothing.

The following also took part in the discussion: Lieut. S. P. Oliver, R.A., Dr. Seemann, Mr. Walter Dendy, Mr. Allan, Mr. Mackenzie, and the Chairman.

The meeting then adjourned till Jan. 4th, 1870.

JANUARY 4, 1870.

DR. E. S. CHARNOCK, V.P., IN THE CHAIR.

THE minutes of the last meeting were confirmed.

Andrew Black, Esq., 23, Royal Crescent, Glasgow; John Morgan, Esq., 15, Burton Crescent; and Carl Alphonso Hoffmann, Esq., Elmfield, St. Julian's Road, Streatham, were elected Fellows.

Presents were announced as follows:—

FOR THE LIBRARY.

From the AUTHOR.—Des Races Humaines, ou Eléments d'Ethnographie. D'Omalius D'Halloy.

From the AUTHOR.—Origines, Migrations, Philologie, et Antiquités, parts 1 and 2. Le Duc du Rousillon.

From the SOCIETY.—Bulletins de la Société Impériale des Naturalistes de Moscou, No. 4, 1869.

From the COLLEGE.—Bulletin of the Museum of Comparative Zoology at Harvard College, Nos. 8—13.

From the BOSTON SOCIETY.—Address on the Centennial Anniversary of the birth of Humboldt. L. Agassiz.

From the AUTHOR.—Observations on a Collection of Chalchihuitls from Mexico and Central America. E. G. Squire, M.A.

From the AUTHOR.—Report upon Sea-dredging. L. Agassiz.

From the SOCIETY.—Proceedings of the Royal Society, No. 115.

From the CANADIAN INSTITUTE.—The Canadian Journal, No. 4.

From the EDITORS.—Nature; The Medical Press and Circular; Scientific Opinion.

From DR. RYAN TENISON.—British Medical Journal.

The CHAIRMAN announced that Mr. E. W. Brabrook and Mr. A. L. Lewis had been appointed Auditors of the Society's accounts for 1869.

A paper by Mr. L. OWEN PIKE, M.A., "On the Psychical Elements of Religion" was then read.

INTRODUCTION.—*Definition of Terms.*—What is Religion? This, I think, is a question which it is my duty to answer before I have any right to proceed further with the subject which I have undertaken to investigate. The professors of each individual faith sometimes brand as superstitions all the doctrines in which others differ from them, and regard themselves as the only believers in the true religion. It is hardly necessary to remark that were the teachings of any one sect adopted by the man of science in this sense, it would be impossible for him to propound such an inquiry as the present. But where does religion end and superstition begin for the impartial seeker after truth? Is it possible to draw any line with a hope that it will be generally accepted?

The best and the simplest method of dealing with the difficulty will, I think, be to accept the word "religion" in its widest sense, and to remember that the Latin *religio* meant not less superstition than what the orthodox of any creed would term "religion." By religion, then, I do not understand any particular form of any particular faith, nor any particular faith regarded as a whole. I use the word as a generic term, including not only all revelations or pretended revelations, but also the results of every attempt to deal with those hidden mysteries of which we can know nothing except through revelation, or, in other words, which the Laws of Mind will not permit us to solve for ourselves. Those results vary according to the mental constitution and the circumstances of each individual or nation; but to all alike—from the Fetichism of the lowest savage, to Buddhism, the highest form of a creed not dependent on revelation—I give the name of religion. To the myths which form the basis of the most beautiful ancient poems, to the Pantheon of Greek and Roman civilisation, to all the conclusions of metaphysical speculators, to the Pantheism of one school of philosophy, to the Atheism of another, and even to that Scepticism which believes itself the negation of faith, I give alike the name of religion, and I hope in the end to justify my definition.

Though, however, without intending any disrespect to any form of faith, I discard for scientific purposes the distinction between religion and superstition, I have found it necessary to make a two-fold division of religion, which (as I hope to show) naturally falls under two heads:

1. The religion in which both the intellect and the emotions play a part.

2. The religion in which only the intellect plays a part.

The former I place first as that which, in the history of all nations and all individuals, precedes the latter, and is accepted by the great majority of mankind. The latter has never in any age been accepted by more than a few persons who have commonly been misunderstood, who have sometimes misunderstood their own conclusions, and who have never made many converts to their opinions even when they have succeeded in founding a faith. The mental history of such men, however, is of such importance, and their influence upon the direction which religion has taken has been so great, that it would be unjustifiable to exclude their views while searching for the common elements of religion, and for the causes which predispose mankind to accept a revelation.

If it is necessary to give a definition of the term "religion," it is, perhaps, not less necessary to say what I mean by the term "psychical," and to justify its use.

The words "psychical" and "psychology" have the double advantage of being sufficiently precise and yet of implying no theory whatever—a rare and most valuable quality in a scientific term. The Greek word $\psi\upsilon\chi\eta$ has a double meaning: (1.) the breath of life; (2.) the soul. And psychology is the science of that aggregate of phenomena which one school declares to be sufficiently explained, or susceptible of explanation by the laws of matter alone, but for which another school postulates the existence of spirit as a necessary cause. It is most fortunate that a word exists which is equally applicable to the views of both schools; it is still more fortunate that the word is of so extended a meaning as to be consistent with the rejection of all the dogmatic axioms of both schools alike. Psychology, in the sense which is not only justified but suggested by etymology, and in the sense in which I use it, is the science of the phenomena of animal life in action. This definition, I am aware, trespasses apparently on the domain of what is commonly called "physiology;" but no psychology is complete without physiology, and it may be added that physiology is but a part of psychology. The waste and repair of tissue are so inseparably connected with volition, with emotion, with sense, and with intellect, that it is impossible to understand either class of phenomena without a knowledge of the other. Psychology, then, may be considered the dynamics of breathing beings, all of which appear to be endowed with consciousness in a greater or less degree; and the psychical elements of religion are those elements, if they may be so-called, which are to be discovered in the animals displaying the phenomena of religion.

Having now attempted to explain the sense in which I use the terms "religion" and "psychical," I will make a few remarks concerning my use of the term element. It is a word which has seen many changes, and which may possibly see many more. When applied to visible matter, it no longer means earth, air, fire, or water; and far be it from me to suggest that some of the mental phenomena which in our time are considered elementary, may not one day be resolved into more simple constituent parts. Indeed, it is already allowed by psychologists of most schools that the faculty of discrimination, or the sense of difference, is the ultimate basis of all psychical phenomena. But,

although every state of feeling may be said to involve this sense of difference in one form or other, the fact still remains that there is a wide distinction between an emotion and an intellectual perception, and that we do not as yet know precisely what is the cause of that distinction. To an emotion, therefore, and to a simple intellectual law of association, I have ventured to give the name of element, though I am fully prepared to admit that the expression must be considered somewhat faulty. I can only plead in apology that I have sought for a better word in vain.

I trust, however, that the object of the present inquiry is now sufficiently plain, though I may, perhaps, render it still plainer by giving a definition of "the psychical elements of religion" in gross, instead of term by term. I mean by the phrase those simple faculties or simple laws in the constitution of breathing beings, which faculties or laws can be traced in all forms of religion, including superstition; and I divide religion into two classes, because I hope to show that to one kind of religion two or more psychical conditions are necessary, while the other is but the recognition of the one fundamental but simple law of consciousness.

PART I.—*The Elements of Popular Creeds.*—No people which has handed down a literature has omitted to hand down a creed; and in all the popular creeds which have been handed down to us there are certain points of resemblance. All make a certain appeal to the intellect; all make a certain appeal to the emotions. Every superstition proclaims that a person or persons must be propitiated, and lays down a definite form of propitiation. Gods are always endowed with powers, motives, and feelings like those of human beings in kind, though greater in degree. It would be useless to prostrate oneself to a God who could not see, to pray to a God who could not hear, to sacrifice to a God who found no sweetness in the savour of sacrifice, to thank a God who could not be gratified, or to make atonement to a God who could not be angry. Such as the man is, such in character, though greater, must be the conception of the God; and, though the form of his body or bodies has varied, it has always been supposed that, in the mental affections at least, God made man in his own image. Nor is any other conception possible, as the human intellect is at present constituted; for any attempt to conceive the divine nature differently ends in Atheism, in Pantheism, which is Atheism in disguise, in Scepticism, which doubts, though it does not deny, the existence of a divine Person, or in the utter negation of thought. The modern English Church, it is true, has declared God to be without body, parts, or passions, but does not, therefore, demand any intellectual assent to that proposition. It appeals not to the reason, but to the faith of the believer. It allows that God is a mystery beyond the grasp of man, and shrinks from the use of words which would profanely imply that He is in any respect like miserable human beings. But no form of prayer has yet been devised which does not tacitly assume that God listens to mankind as a great King listens to the petitions of his subjects. The weakness of the human intellect is a fact which

not even faith can disguise, and which man is compelled to declare in every word which he addresses to God.

The most beautiful, and perhaps the most rational, of all superstitions is that which attributes to the heavenly bodies the power of ordering all earthly events. Among all the natural objects which delight the senses, or appeal to the imagination, there are none which are so rich at once in charms for the eye and in food for the mind as an eastern sky on a clear night. Of the myriads of stars in the deep dark vault there is not one that is not lovely in itself, nor one that is not typical of order. As each pursues its appointed way, sometimes lost to view, but always returning at its appointed time, never destroying or attacking its fellows, it suggests the idea of a destiny benevolent but immutable.

The astrologers of Persia and Egypt must soon have discovered, not only that the succession of the seasons is as certain as the course of the moon and the stars, but that the seasons themselves depend upon the relative positions of the stars, the earth, and the sun. Night and day, summer and winter, seedtime and harvest, the blossom and the fruit, the breeding of cattle, and the flow of the tides are all influenced by the position of the sun or the moon, and may be predicted with certainty by the aid of astronomy. If the sun ceased to give us its light and heat, the pastures would cease to be green with herbage, the crops would cease to grow, the flocks and herds would cease to multiply, and man himself would cease to exist. The wise men of the east had in very early times advanced so far in knowledge that these facts were as clearly comprehended by them as by the astronomers and the chemists of a later age. But there was more poetry in their minds than in the minds of our more practical men of science. They were not content to regard light and heat as mere force; they converted the object from which heat and light appeared to come into a person—a God that had a will and ought to be worshipped.

There was thus introduced in very early times a difficulty which has recurred again and again in various religions, the difficulty of reconciling destiny with free will. The worshippers of the sun and the planets believed that the future could be predicted by the aid of the heavens, and were yet inconsistent enough to beseech the immutable stars for changes in their fate. They reasoned well enough at first; they were certain that many terrestrial events were brought to pass by celestial agency, and could be predicted through a knowledge of the celestial bodies; and they inferred that, as a necessary consequence, all events could be predicted in a similar manner. They omitted only one scientific process—verification. So far went their reason; then came in their own feelings, or the feelings of their disciples. It is terrible to face the unalterable, the inexorable fate. The Being that possessed incalculable power must surely, they thought, be not devoid of mercy, of tenderness, of sympathy for woe. He might be angry like themselves, and His anger might be pacified. He could not have created them with wills of which the apparent freedom was but a mockery, with hopes that were but delusions, with life that was no better than the existence of the falling leaf or the running water.

They would not believe all this. They would think better of themselves and better of the gods ; for the planets soon became gods, like the sun, though less in power. The planets which, according to astrology, ruled by inflexible laws, presided, according to superstition, over the ever changing phases of life. If every day and every hour were influenced by the sun, or the moon, or some minor luminary, every human interest was the special care of a deity identical in name and in attributes with one of the heavenly bodies. The Sage discovered the power, and believed in more than the power of the heavens over the earth ; the poet transferred the human form and human passions to the skies.

Astrology, however, has not been the only source of superstition. The earth has contributed gods no less than the heavens. The deification and personification of terrestrial objects, or of human powers, may, perhaps, in some cases, be merely a degradation of astrology. The respect once paid to the presiding deity may have been gradually transferred to the faculties over which he presided, to the earthly emblems of his influence. Star-worship is, however, but one development of an almost universal tendency, and a development which implies a considerable degree of civilisation. It requires less intellectual effort to conceive the tides and the storms as independent powers, or as powers possessed by spirits, than to conceive them as the dependents of a power or powers by which they are ruled from afar. Water-gods and storm-gods have taken the human form without the intervention of astrology ; they have received prayers and sacrifices, and thank-offerings without number. In some mythologies there is not a stream nor a grove without its spirit, nor a place of any kind without its genius.* The earth, and the air, and the waters have been peopled with innumerable beings in the likeness of men and women, sometimes hating with the fiercest of human passions, sometimes loving with the sweetest of human sympathies.

In all these Gods of the past, human nature has but expressed its hopes, and its fears, its joys and its miseries, its defeats and its victories, its littleness and its greatness. Mythology and superstition are the mirrors of mankind ; they reflect all the knowledge, and all the feelings, and all the motives of the people to which they belong. Though the earliest tales may have lost their meaning, though the corruptions of language may obscure a beautiful allegory, though poet succeeding poet may have destroyed the simplicity of the fable which they have adorned, still each story in the form in which it exists is a chronicle of the manners of men, and of the character and the source of their religious feelings. Even the worship of bulls and serpents is an appeal to human sentiments no less than the worship of Apollo or Minerva. The fact that some animals are distinguished from others by great differences of passion or instinct is known even to the savage ; and it is not wonderful that men should have paid homage to strength, and courage, and craft, under the form

* This fact is a source of constant and bitter complaint to all the early Christian fathers. Such superstitions were common to almost all peoples, and almost all countries.

of the animals in which they are most conspicuous. In Egypt, however, there was what appears at first sight a brute-worship which a very slight knowledge of astrology will suffice to explain. A resemblance was traced between various groups of stars and various animals found upon the earth, and the names of the animals were by a very natural process made to serve as names of the constellations. It was soon discovered that the sun appeared to run his course through twelve of these constellations in the year, returning always to the point from which he had started. It thus became convenient to designate the seasons by the position of the sun. At the vernal equinox the sun entered Aries, or the Ram; and as a symbol of the spring the Egyptians made the God Ammon, whom they represented with the head and horns of a ram, but in whom, nevertheless Alexander the Great recognised, as he supposed, the Zeus of the Greeks. So the worship of Apis, the calf-god, and of the sacred bull, is simply the worship of the sun in Taurus, into which constellation he entered after leaving Aries. The Phoenix, which rises ever new from its own ashes, is but the Sun, which rises again and again from the night in which it is lost. The faith of the Egyptians, though it seems, until it is explained, the most brutal and monstrous which ever disgraced humanity, is but an elaborate form of sun-worship appealing to the senses through its emblems. The sun was worshipped as the sun simply, under the name of Ra; but it was the doctrine of the astrologers* that his influence varied with the constellation through which he might be passing; and he was worshipped under his different characters, just as Jupiter was worshipped by the Romans, sometimes as the thunderer, sometimes as the giver of rain, and sometimes as the god of boundaries. Had the Egyptians discovered one very important astronomical fact, which subsequent observation has added to our knowledge, the gods Ammon and Apis would never have been worshipped. Astronomers still announce that the sun enters Aries at the vernal equinox, but they speak of the sign and not of the constellation. The twelve signs of the Zodiac and their names are still retained as an arbitrary division of the sun's apparent course; but the constellations and the signs are no longer identical. The precession of the equinoxes has falsified all the wisdom and all the religion of the Egyptians.

Through ram-worship and bull-worship, through sun-worship, and star-worship, through storm-worship and water-worship, through prayers to all the good gods, and bribes to all the bad gods, may be seen the worship of a magnified humanity. It is necessary to inquire more closely what is the explanation of this universal law—why man in all countries seeks for a god, and why all the gods have, in one aspect at least, a resemblance to man. In their own frames, and in everything external to them, there is something to remind human beings of their weakness. In the midst of life we are in death. There is no power in all nature that we can change by any effort of our own. The hopes created by the best laid plans may be destroyed

* Ptolemy, *Tetrabib.*

by circumstances beyond the human ken. The fears which hem us in, and appear to leave no possibility of escape, may be dissipated by some unforeseen event. The affections that cling around a beloved object may be left torn and bleeding by some calamity that suggests the existence of a cruel and a quasi-human foe. The proudest and the strongest, the bravest and the wisest, are made to feel the humiliation of dependence, and that sense of dependence or of weakness is the foundation of all religion.

If religion in its first form is an attribute of humanity, it is still more an attribute of the female sex. All men are dependent, but women are even more dependent than men. It is a part of their nature to persuade, to implore, to please and sometime to sacrifice. It is a part of their nature to believe in the efficacy of entreaty; and what is a part of their nature is a part also of the nature of the weaker and more oppressed among men. It is not difficult for any human being to discover how much depends upon the good will and sympathy of others. The smile of a king or the frown of a tyrant, the mercy of an enemy or the loss of a friend, may make the misery or the happiness of a life; they may follow the soft word or the harsh word, conciliation or neglect. And it is not wonderful that the unseen power should have been likened to the powers which are seen. The loss to the mother is the same whether the son be taken from her by the spear of the foe or by the shaft of disease; the loss to the farmer is the same whether his cattle be stolen, or destroyed by murrain, whether his crops fail through want of sun, or are trampled down by human feet. Ruin or prosperity may be brought to pass through human agency or by means which human intelligence cannot understand; still men only followed a law of their being when they connected similar effects with similar causes.

A survey of all those ancient religions which are best known to us shows that they all agreed in reflecting human nature in the Heavens. They appear, however, to have differed in one important respect; the reflection of some was purely mental, the reflection of others was not only mental but corporeal. Some gave human passions and devices to the visible objects of the sky; others represented quasi-human beings as the governors of those objects themselves. But it may be safely asserted not only of those ancient faiths, but of every popular creed in every age, that they all exhibit two well-marked mental phenomena:

1. The operation of the emotion of fear.
2. The operation of that Intellectual Law* of Association, according to which like effects are attributed to like causes.

In short, the average human being has a dread of certain unknown powers because he likens them to himself. I do not, of course, assert that the same elements enter into all religions in the same proportions. The emotional element must necessarily vary with the individual; both the quantity and the quality of fear must be different in different persons; and the evidence of this fact is to be

* Called by Professor Bain the "law of similarity." (See the *Senses and the Intellect*, *passim*.)

discovered in the preference shown by some for a patron god or saint of one character, and by others for one of another character. But every widely accepted religion gives play to the emotions, and every religion which gives play to the emotions introduces a power which is propitiated and therefore feared.

It will, I am aware, be objected that the religion of Jesus is a religion not of fear but of love, and it will be objected also that no religion can be popular unless it offers comfort and happiness in one form or other. I do not dispute either of these statements, but I maintain, nevertheless, that fear is the great emotional basis of all popular religions. Out of fear springs hope, and a religion becomes widely diffused in proportion as it encourages the hopes of the fearful; but even Christianity, with its exquisite tenderness for the weak and the oppressed, declares that all shall be damned who, after the gospel has been preached to them, will not believe. It may be true that the emotional foundation of every popular religion is hope, but it is no less true that the foundation is laid on fear.

PART II.—*The Elements of Philosophic Creeds.*—Thus far I have dealt only with the religion of great masses—with the religion which appeals to popular feeling and in a certain sense to popular comprehension. I now approach that other form of religion to which the name of philosophy is commonly given, but which is, after all, only another aspect of human nature striving for a knowledge of that which it cannot grasp by its own faculties. The average man, though he feels a desire to know something of the universe and of the causes which he believes to be external to himself, is ready to take for granted the current faith of the day. But minds of a certain class existing in almost every age, though always limited in number, burn to make discoveries for themselves and to penetrate beyond the dogmas of theology. The history of the attempts made by such minds to found a science of Ontology, or of the Absolute, or in other words to escape the laws of their own existence, constitutes, perhaps, at once the most painful and the most instructive chapter in the history of man. The story repeats itself again and again; it is a circle beginning with inquiry and coming round to scepticism—which is but inquiry, or the admission that knowledge is wanting, expressed in Greek. And this serpent of delusive hope has been biting its own tail for more than twenty centuries.* Of this fact there is no doubt; but what, it may be asked, is the cause.

The cause, I answer, is to be found in the great fundamental law of the intellect, the law of relativity or discrimination—the law that the mind can have no knowledge of any objects except in their relation to another or other objects, and in relation also to itself. This law there seems every reason to believe that the founder of the Buddhist religion, whoever he may have been, not only discovered but appreciated in its full significance. It seems to be admitted by common consent that the person to whom the epithet of Buddha has been given separated himself from the world during many years which

* The story is told with admirable clearness in Mr. G. H. Lewes's *Biographical History of Philosophy*.

he passed in reflection, and that when he re-appeared from his seclusion he believed in nothing, he saw no reality anywhere, and considered that extinction or absorption into the nothing was the great end of intellectual life. It is, without doubt possible that with our modern ideas we may attribute modern forms of thought to ancient thinkers, but the words in which Buddha's conclusions are expressed do certainly appear to imply a knowledge of the great law that we cannot know anything, except in its double relation to other things and to ourselves, and that the philosopher's desire for a higher knowledge is to human beings, as at present constituted, a desire for nothing—for annihilation.

Before, however, I enter further upon the consideration of this great law in its religious aspect, I feel it necessary to remark that a distinction must be drawn between the doctrines of Buddha and the various subsequent forms of Buddhism. Throughout all nature there appear to be connecting links; and in religion, as in all other matters there are such imperceptible gradations that there is a certain point at which it is difficult to pronounce whether emotion still forms an element or not, just as it is difficult to pronounce whether some organisms belong to the animal or the vegetable kingdom. In Buddhism especially are these connecting links of religion to be found. The Buddhists of the contemplative Mahayana school personified the "nothing" by supposing it, under the name of Alaya, to be a soul and the substratum of all things. This conversion of nothing into a something was of course, if I have correctly interpreted Buddha's teaching, a direct contradiction of his most cherished belief; and yet perhaps it was the only interpretation possible for minds less profound than his in an age when he alone had discovered the fundamental law of mind. From the doctrine of a soul to the doctrine of a personal deity with definite attributes, the transition is not very difficult; and in Japan Buddha became a supreme God who sits enthroned in a heaven of diamonds, and who is an Almighty creator.*

The various forms of the Buddhist religion, even were there no other reason, would compel us to include the creed of the vulgar in the same category with the conclusions of the metaphysician. To the latter his conclusions are his religion no less than their faith to the former; and though it is possible, and for certain purposes convenient, to draw a broad line of demarcation between the two, yet it is no less certain that the immediate followers of any great metaphysico-religious teacher vacillate between adherence to a formula which they but imperfectly comprehend, and the desire to enunciate

* I am unable (and I can hardly say that I regret it) to confirm my views of Buddha and Buddhism by that style of reference which is affected by accurate compilers. To give chapter and verse for a number of insignificant facts might command the approbation of the *Saturday Review*, but would give no assistance towards the comprehension of a great mind. I can only say that I have formed my opinion after a very careful comparison of the best and most recent works on Buddhism, including those of Schlagintweit and Professor Max Müller.

more positive doctrines which seem to them more intelligible. Thus it happens that whatever the teaching of the founder may have been, there is no popular creed which is not distinctly anthropomorphic. Philosophers themselves, too, and many even of those who recognise the great law of relativity,* often forget this fundamental law in practice, and so give a species of philosophic sanction to religion in its more popular form. At the very moment at which the existence of "the absolute," or "the infinite," or "the unconditioned," or "the all" or even "the nothing" is asserted or inferred as a fact independent of human consciousness, the great law is forgotten and the first step is made towards a renewal in some form or other, of the primary or anthropomorphic kind of faith. The philosopher's "something which underlies phenomena" stands in the place of (and is frequently called) his god. His esoteric disciples accept his views perhaps in nearly the same sense as himself, but when they preach to the outer world they forget the associations which already belong in every country to the name of God, and are surprised to discover that philosophy leaves the creed of the masses as nearly as possible where it was before.

Apart, then, from Revelation with which it is not our province to deal, it appears that religions vary with the introduction of the intellectual elements and the exclusion of the emotional. In a land in which the popular creed accepted the idea of Zeus enthroned on a lofty mountain and hurling his thunderbolts far and wide, it was possible for Pyrrho to pass through all the phases of thought which lead to scepticism—to the admission that we can know nothing of existence in itself, if such existence there be. In another land, into which the sceptical doctrines of Buddha were introduced as a creed, it was possible to evolve the idea of a God-like Zeus, seated on a diamond throne. These two lands were as widely separated by space, by race, by climate, and by language as Greece and Japan. Can any more convincing proof be needed that the psychical ground-work of religion is everywhere the same, but that religion differs in proportion as pure intellect is brought to bear upon the problems with which it deals?

In tracing the links which connect the ordinary religion of great masses with the religion of pure intellect, I have hitherto left almost unnoticed the important part which has been played by language in persuading the human mind to deceive itself. The growing science of comparative mythology illustrates this remarkable phenomenon in one of its aspects; the positive conclusions of some systems of philosophy illustrate it in another. In the former case language has at length been forced to reveal her own delusions; in the latter a different method is necessary, though the process discovered by comparative philology in the one case affords a clue to the process discoverable in the other. Nor is it necessary to admit all the conjectures

* Among these may be mentioned Sir W. Hamilton, Cousin, Hegel, and, I fear, at least one of the most justly distinguished thinkers of our own time.

of the most advanced students of mythology in order to detect the personification of natural objects and natural forces through the medium of words. It is plain enough that the history of Daphne,* considered as a person, is but a very realistic, or, if the term be preferred, poetical version of the dawn of day with its attendant and subsequent phenomena. It is perhaps less plain, but certainly not less true, that "the Unconditioned," "the Absolute," "the Infinite" and many other "thes" followed by a capital initial are words tending to a personification, it may be poetical but certainly realistic.

The difference between the mythological term and the philosophical term is this. The former, being originally the name of a phenomenon of which cognisance is taken by the senses, requires no intermediate step between its primary and its secondary or anthropomorphic signification; the dawn, which (as far as we are concerned) is an actual fact, is personified, and the name of the fact is transferred to the person. The philosophical term may no less undergo the same change of meaning; it may be, and frequently is, used to designate a personal divinity; but its origin can be traced back some stages farther, and in this respect there is a very important difference between it and the mythological term. But when the philosophical term is used as the name of a deity, it is not the name of anything tangible, visible, or appreciable by any of the senses; it is the name of an attribute, which attribute can always be resolved into a negation. The absolute, for instance, is the negation of the relative; the infinite of the finite; the unconditioned of the conditioned. The use of these words affords a most instructive illustration of the law of relativity, and of the manner in which it asserts itself through all the deceptions of language. All these delusive philosophical terms are found in pairs, and there can be no pair without a relation of some kind subsisting between its two constituents. But upon consideration, I think, it will invariably be found that each of these two constituents is, in every case, if not meaningless, at least inconceivable. It is obvious that no one can realise to himself the meaning of the negative term (as *e.g.* of the infinite) without realising the meaning of the positive (as *e.g.* of the finite). Now the "finite" as a something, or a totality of many somethings existing, *per se*, is to me at least wholly inconceivable. I know what a finite stick is, and what any other particular finite object is, but I do not know what "the finite" is except in the sense of an attribute possessed by various tangible or visible substances—by substances of which I can take cognisance by some of my senses. I may perceive, too, that many objects resemble others in so far as they are finite, but I am still no nearer a knowledge of "the finite" *per se*; and I am utterly unable to grasp the

* I have chosen the story of Daphne as a typical illustration, because it is one concerning the origin of which there can be no doubt. The word occurs, with little change of form, in different Aryan languages (*e.g.*, Ahana, Dabana, Daphne, Dawn), and the story is as simple as beautiful. The love and pursuit of the Sun are invariably followed by the death of the Dawn. (See Mr. G. W. Cox's *Manual of Comp. Myth.*, etc., and Professor Max Müller's paper on the same subject in the Oxford Essays.)

idea of a totality of things finite, because the law of relativity compels me to think of another thing or things beyond. And if I have no idea of the finite, in this sense, which is the philosophical sense, I have of course no idea of "the infinite," which can only be the negation of I know not what. In the use of all these philosophical terms we see mind led captive by symbols of its own creation. Certain words are coined in order to serve, in logical phrase, as the names of attributes, but there is a tendency in most human minds to regard these names as something more than the names of attributes, or perhaps rather to forget what is meant by the expression. We are all apt to forget, as Plato forgot, that when we speak of blueness, of humanity, or even of relativity, we are speaking only of modes of resemblance between various objects of sense or thought. All blue objects resemble each other in a particular manner, all human beings in another particular manner, all pairs of objects in standing towards each other in some relation. But no one has any cognisance of blueness, of humanity, or of relations of any kind apart from the blue objects, human objects, or objects in relation.* By a convenient fiction, however, it is possible to speak of any attribute, or in other words, of any mode of resemblance, in language identical in form with the language applied to the objects in which these modes of resemblance are traced. It is grammatically no less correct to say that blueness charms the sight than that the sky or the ocean charms the sight—that humanity has its troubles than that human beings have their troubles—that relations meet us everywhere than that we meet everywhere with objects in relation. But the faculty by which we give a name to an attribute, or mode of resemblance, is that faculty by which we are enabled to perceive similarity, and to which has been given the title of a law of association—the law of similarity. If we see a blue object to-day we think of blue objects we have seen on previous occasions and give to the mode of resemblance the name of blueness. And we perform just the same operation when we understand what we mean by the name of any attribute or any mode of resemblance.

If now we attempt to apply this method of examination to the term infinity, we shall discover, in the first place, that it means only the negation of finity; and when we apply it to the term finity, if such a word may be coined for the occasion, we shall see at once that no more is meant than that mode of resemblance which we perceive in finite objects. A short thick stick, and a long thin stick resemble each other in having ends; finity or finitude is the term used to express that mode of resemblance, to express the relation in which finite objects stand towards each other. To use the word in any other signification is to forget what an attribute really is, to change the value of the symbols used in psychological problems. What would be thought of a mathematician who having discovered

* This undoubted fact depends ultimately on the "law of inseparable association", which it is not necessary to dwell upon here, but which is very clearly explained by Mr. J. S. Mill, in his *Examination of Sir W. Hamilton's Philosophy*, chap. xiv.

the value of x to be $y-z$ should endeavour to ascertain its numerical equivalent on the assumption that $x=2(y+z)$? Yet an analogous mistake is continually made by seekers after infinity, who quite forget that, if they retain the value originally assigned to their symbols throughout their investigations, infinity means no more than the absence of that resemblance which is perceived between sticks or other objects of various lengths, breadths or diameters, of which resemblance we can have no knowledge except such as may come to us through the objects themselves.

What has been said of the finitude and infinitude, of the finite and the infinite, may be said *mutatis mutandis* of the other similar pairs of philosophical terms. I have selected the finite and the infinite for the purpose of illustrating my meaning, because the existence of the word infinity enabled me to point out the double ambiguity of meaning which is commonly wrapped up in these traps for acute intellects. Those philosophers who argue in favour of the independent existence of "infinity" do not draw any clear distinction between it and "the infinite." Nor can I draw any such distinction, as I do not profess to have any conception of either. But I can discover by the forms of language that "infinity" must be the negation of finity or finitude, and that "the infinite" must be the negation of "the finite." Of finity or finitude I know no more than that it is the name of an attribute—of a mode of resemblance—and expresses the fact that certain objects have been compared and have been found to agree in the possession of that attribute. The negation of this attribute conveys no definite idea to my mind. I have no experience of any objects in which the attribute is wanting, and, therefore, no experience of any objects in which the want of it can be regarded as a mode of resemblance. "The finite," on the other hand, which, when it is explained at all, is explained to mean the sum of all finite objects, is quite beyond the intellectual grasp, because every attempt to apprehend it can be made only on the assumption of a boundary between this totality of finite objects and an unknown region beyond. But this unknown region must itself be either finite or infinite. We cannot conceive it as infinite because we start with the idea of a boundary; we cannot conceive it as finite because we start with the supposition that it is beyond the sum of finite objects. And we discover, therefore, that it is mere self-deception to persuade ourselves that we have any idea either of "the finite" or of "the infinite" in the sense of a totality.* The law of relativity, which forces us to draw a comparison, presents an insuperable obstacle to omniscience even of things finite.

The process of personifying "the infinite" differs, then, from the process of personifying the dawn by the interposition of three distinct stages: (1) an attribute, or mode of resemblance, receives a name

* This is the conclusion arrived at by Mr. Herbert Spencer, though, strangely enough, he does not apply his discovery to "the relative" and "the absolute", but infers the positive existence of "the absolute." It seems clear that we cannot, for reasons similar to those already given, have any conception of "the relative" as a totality, and, therefore, *à fortiori*, that we cannot infer from it the existence of "the absolute."

(finitude) which can be used in grammatical construction in precisely the same manner as the name of an object possessing attributes ; (2) the absence of this attribute or mode of resemblance is, by a convenient linguistic fiction, described as being in itself an attribute (infinitude) ; (3) a pair of names is coined for the purpose of expressing the totality of all modes of existence—one name to express the totality of all things possessing the particular attribute, “the finite ;” the other to express the totality of all things not possessing it, “the infinite.” And then “the infinite,” like the dawn, is in name—though certainly not like the dawn in conception—personified.

I shall probably be asked how it is possible, if the mind really works according to definite laws, that meaningless conclusions or false conclusions can ever be arrived at. I think it will not be very difficult to show that the operation of those very laws upon the imperfect contrivances of language is sufficient to explain the whole mystery. Could we always command a clear comprehension of the fact to be expressed together with a word free from all other associations and adequate to the expression of that fact, we should have fewer systems of philosophy, and an easier method of exposing fallacies. But when most words have many different meanings it is no easy matter, even with the best intentions, to avoid the pitfalls of ambiguity ; and many of these pitfalls have been laid by logicians in their attempts to escape from others. They have commonly perceived so much of the law of discrimination or relativity as to be aware that, in order to have any perception or conception of an object or of any of its attributes, it must be compared with something else. And, as a compendious way of stating this fact, they have invented such pairs of terms as horse and not-horse, blue and not-blue, man and not-man, finite and infinite. Now this is a curious illustration of the law of similarity ; like contrivances are applied to what are at first sight like cases, and where the cases really are like no harm is done. A horse is defined to the eye and to the recollection by objects which are not horses, blue objects by objects which are not blue, and so the law of discrimination is satisfied. But when finite objects are treated in the same way as a class opposed to infinite, there is no likeness except in the form of the words. A blue object is marked out by other objects not blue, *but a finite object, considered simply as finite, must necessarily be defined by objects which are also finite.* What is the boundary in the one case is the boundary in the other, and the correlate for what is finite is not what is infinite, but what is finite also ; and the coexistence of the two or more finite things satisfies the fundamental law of relativity, while the attempt to satisfy it by the invention of a something infinite ends in a meaningless contradiction in terms.*

As we perceive objects which are finite by the aid of others which are finite, so we perceive objects which stand in any relation by the aid of those in relation to which they stand. So, too, the law of dis-

* I believe I have not been anticipated in this solution of an ever-recurring paradox. It seems to me to supply a mode of escape from one of the greatest psychological difficulties, or, rather, to show that the difficulty does not exist.

crimination cannot be satisfied by the invention of a non-relative class as opposed to that which is relative, for here again there would be a contradiction in terms and a futile attempt to violate the law, in apparent obedience to which the term non-relative or absolute has been invented. The non-relative must be the correlate of the relative; it must be, in short, just that which by its name it proclaims itself not to be; it must be at once in relation and not in relation.

Thus these ultimate negative abstract terms of some past, and I fear I must add even some modern, philosophies can be traced back to their origin, divested of their accumulated ambiguities, and shown to be mere symbols used in obedience to a false analogy. Thus the worship of the Word may be seen to have been perpetuated for centuries in a manner not intended by the fourth Evangelist. But to what, it may be asked, does the scientific search for a basis of religion bring us when we have discovered abstractions to be mere abstractions and meaningless terms to be devoid of meaning? To Atheism, to Pantheism, or to Scepticism? I answer, to none of these. We come only to the humble recognition of our human weakness, of which we have all the certainty that human beings can possess.

Beyond this, both the Atheist and the Pantheist, like metaphysicians of various schools, attempt to penetrate—but in vain. Both the Pantheist and the Atheist deny the personality of God—of that which we cannot know. They lay down a dogma, which is at least as full of mystery, as difficult to comprehend, as the dogmas of any religion. We can no more realise to our own minds the attributes of Divinity when they are applied to matter or force than when they are applied to a person. "The eternal," which is, in its usual acceptation, only another name for "the infinite," is beyond the intellectual grasp of human beings. The "indestructibility of matter" and the "eternity of force" are terms which add nothing to our knowledge. It is within our experience that when matter undergoes a change it continues to be matter in another form, and that when force appears to be lost it is but transmuted into force again. But for all this we have only the evidence of our senses and of our reason; carry discovery as far as you please and it is at last only the discovery of what is true relatively to human beings. Could it be proved that force is but a mode of matter, or that matter is but a mode of force, the proof would still be good only for human beings, and would leave untouched the great problem which has been called philosophic, but which might with propriety be termed philomoric—the problem of ontology, of what exists independently of all sense and all inference.

But, it may be said, to deny the possibility of knowledge, is to preach, if not Atheism, at least Scepticism. Scepticism, however, is, I think, a word inapplicable to any profound conviction, and most of all when that conviction is consistent with nearly every form of religious belief. And, apart from the implicit faith which is given to a revelation, there cannot be any human conviction more profound than that of the psychologist concerning the fundamental law of the human intellect. This, it must be remembered, is knowledge as positive as any of which we are capable, though not knowledge in the sense in

which the ancient philosophers desired it. And, though the perception of this law teaches a humility as deep as that of any religious system, it brings at the same time its own consolation. For the very law which precludes all knowledge except of things in relation to each other, and to ourselves, denies the power of conceiving a totality even of such relative knowledge. "The greater the circle of light, the greater the boundary of darkness," said Sir Humphrey Davy; and this profound remark, when translated into psychological language, means that the greater the number of relations discovered, the greater must we conceive to be the number discoverable. Each point in the circle stands in some relation to a point, or points, beyond the circle, and as the circumference is increased, so also must be increased the number of the points and of their relations. Thus the admission of our weakness is rewarded by a sense of our power, and, though the scientific progress of the individual man may be bounded by the term of his life, the scientific progress of mankind can be bounded only by the term of the duration of the species.

This is the ultimate conclusion of psychology, and may, in a sense, be considered a religion—a religion of humility tempered with self-respect. It is also a possible ingredient in most of the popular religions—whether they are, or profess to be, revealed or not. I do not mean to assert that the ordinary believer of a popular creed has any distinct notion of the law of relativity, but he has a glimmering of the truth that he cannot, by his own unaided intellect, discover the origin and real nature of the world external to himself—if such a world there be. And this sense of mystery is very nearly allied to fear, and so connects the emotional element of all wide-spread religions with the purely intellectual element which constitutes the creed of the psychologist apart from his acceptance of revelation.

It appears then, I think, that the result has justified my statement that the attempts of what has been called philosophy must be considered in any search for the psychical elements of religion. Revelation has always presented itself as a message from that world which philosophy has striven in vain to reach. But while philosophy has been engaged in a fruitless struggle to free itself from the laws of the human mind, every messenger of every revelation has made use of those laws as the foundation upon which his edifice must be built. Thus the first preacher of every creed has stated either clearly or indistinctly, if not the law of relativity and the law that we cannot know anything except in its double relation to ourselves and to other objects—at least, some of the consequences which follow from that law. And thus he is always in perfect agreement with the teachings of psychology. No one, I trust, will suppose that I mention this fact as a proof of the truly divine origin of any revelation. To make use of such an argument, or of any scientific argument, would, in my opinion, be to place religion in a false position. Nor, on the other hand, when I show that every widely accepted creed goes beyond the simple recognition of human weakness, and makes out of human fears and human imagination a man-like god or gods, do I intend to argue against the truth of any form of faith. It is little more than a truism

to say that the religion of human beings could not have any existence if there were no human minds to entertain it. I have endeavoured to discover what special mental functions are necessary to religion, and, I trust, not altogether without success. I believe my conclusions illustrate some of the phenomena of the French revolution; I believe, too, that they give a certain power of predicting future events; and I do not hesitate to say that, so long as human beings are bound by the law of relativity, so long as they are susceptible of fear, and so long as they attribute like effects to like causes, so long will there be religion of one kind or other in every community.

The REV. DUNBAR HEATH said that the idea of this paper seemed to be that there was a sort of psychical protoplasm, the same in all men, which under different circumstances formed different organisms, as it were, for religion. The ordinary opinion is that religion speaks to a special faculty in man, and even Bishop Temple goes so far as to say that there is such a faculty under the name of conscience, thereby assuming that cats and dogs, who undoubtedly have a conscience, are thereby, *ipso facto*, the recipients of revelation. The idea is that certain non-human, or superhuman, or spiritual elements are first breathed into us, and then that these are cherished and addressed by a superhuman afflation; this is simply as impossible as that two and two should make five; for all that the human being can feel, think, or do, must of course, by the nature of things, be a human feeling, thought, or deed. This is one of the true points in Mr. Pike's paper. He then divides religion rightly into intellectual and emotional; but here we should remember that all compound states of the human mind are a combination of the intellectual and emotional, and that thus again religion does not depend on a special faculty. As to the relative value of these two elements, he (Mr. Heath) perfectly agreed with Buckle that the second is very far beneath the other. Mr. Heath then gave an instance of a radical contradiction between some of the human psychical elements when applied to religion; viz., in the religious psychical idea of God being a Person. A person, he showed, was necessarily a bounded and finite being, commonly called an individual. This contradicts the other common psychical idea of God being infinite or unbounded; the two distinctly contradicting each other. Finally, he said, looking round at the whole subject, we must give our best energies to the mighty task of enlightening intellect, and giving a charitable play to emotion.

The following gentlemen also took part in the discussion:—The Rev. Dunbar Heath, Mr. Dibley, Mr. Walter Dendy, Mr. Charlesworth, Mr. Macrae Moir, Mr. Moncure Conway, Mr. Reddie, and Mr. Blake.

The meeting then adjourned till 1st February.

Dr. INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING DECEMBER 31st, 1869.

Cr.

To Balance, January 1, 1869 :

Bank	93	9	1	
Collected in 1868	7	17	6	
In hand, petty cash	10	12	1	
„ subscriptions	3	4	0	
				115 2 8

To Subscriptions received, 1869 :

Annual ... { Secretary	£445	9	4	
Collected	239	8	0	781 1 4
Bank	46	4	0	

Life Compositions

To Subscriptions on account of arrears :

1863-6	£12	12	0	
1867	10	10	0	77 14 0
1868	54	12	0	

To Subscriptions in advance for 1870

To Sales of Publications :

Translations... { Waitz	£6	12	7	
Broca	2	1	11	
Pouchet	2	8	0	24 8 0
Vogt	6	2	5	
Blumenbach	3	11	5	
Gastaldi ...	3	11	8	

Memoirs, vols. i and ii

To Office Sales :

Review and Journal	£10	19	8	
Cases to ditto	1	11	3	12 10 11

To Exploration Fund, donation

	60	7	5
	0	2	0
	£1091	9	5

We have examined the above account, with the vouchers and books of the Society, and do certify it to have been correctly prepared.

(Signed)

A. L. LEWIS.

15th Jan., 1870.

EDWARD W. BRABROOK.

By payments on account of printer :

Memoirs, vol. ii, balance	119	7	0
Anthrop. Rev., 1867 account, balance	200	0	0
General account 1867, balance	103	5	2
General account 1868, balance	32	17	6
			455 9 8

By payments on account of

Reporting	28	17	6
Advertising	13	7	4
Lithography for vol. iii Memoirs	15	0	0
			57 4 10

By salaries, etc. :

Secretary, year's salary	100	0	0
Gray and Prideaux, accountants	3	3	0
Commissions: Collector	£20	14	2
Bank	0	6	11
Wages, and gratuities £1	40	0	0
			164 4 1

By rent, office expenses, sundries, etc. :

Rent, Michaelmas 1867 to Christmas 1868	162	10	0
Office expenses, sundries	6	7	6
Postages: General	£29	9	8
Review	24	4	3
Stationery	11	14	6
House, miscellaneous accounts	48	3	2
London Library subscription	3	0	0
			285 9 1

By subscription twice received, repaid; viz.,

April 6th			2 2 0
By balances at bankers	122	14	5

Cheque returned for alteration	2	2	0
In hand	2	3	4
			126 19 9

£1091 9 5

ANNUAL MEETING.

JANUARY 18TH, 1870.

JOHN BEDDOE, Esq., M.D., PRESIDENT, IN THE CHAIR.

THE Minutes of the last Annual Meeting were read and confirmed.

The Treasurer submitted a Statement of Accounts, and read the following Report of Income and Expenditure for 1869. (See p. lxxiv.)

On the motion of Mr. ROBERT DES RUFFIÈRES, seconded by Mr. KAINES, the Report of the Auditors was adopted unanimously.

The Report of Council for 1869 was then read as follows.

Report of the Council of the Anthropological Society of London for the year 1869.

1. *Dr. Hunt.*—The Council have already stated by circular that it would have been scarcely respectful to the memory of the founder of the Anthropological Society of London to allow the year in which his unexpected death has occurred to close without any official notice of such an important and melancholy event. Accordingly they announced, with the deepest regret, that Dr. James Hunt, who was born in 1833, and founded the Anthropological Society of London in Jan. 1863, died Aug. 22nd, 1869, aged 36. Dr. Beddoe has prepared a biography of Dr. Hunt, and will read it to the meeting this day.

2. *Meetings.*—During the past year 1869, the seventh of the Society's existence, there have been fifteen, at which the following papers were read:

Dr. C. Carter Blake, F.G.S.—On a Skull from the Chincha Islands.

Rev. J. G. Wood, M.A., F.L.S.—On the Preparation and Uses of Poisons and Poisoned Weapons employed by Savage Races. On Flint Arrow-Heads from Lake Erie and Northern California.

Rev. J. C. Atkinson.—On Cleveland Gravehills.

Edward Peacock, Esq., F.S.A.—On Barrows at Cleatham.

J. W. Flower, Esq., F.G.S.—On a Kjökkenmödden in the Island of Herm.

John Beddoe, Esq., M.D., Pres. A.S.L.—On the Physical Characteristics of the People of Brittany. On the Stature and Bulk of Man in the British Islands.

Dr. R. S. Charnock, F.S.A.—On Locmariaker. On the Peoples of Transylvania.

A. L. Lewis, Esq.—On Locmariaker.

Dr. James Hunt, F.S.A.—On Ancient Megalithic Structures at Carnac, Brittany.

F. Hovenden, Esq.—Man an indestructible Atom.

L. Owen Pike, Esq., M.A.—On the alleged influence of Race on Religion. On the Methods of Anthropological Research.

J. S. Holden, Esq., M.D.—On a Calvaria from Glenarm, co. Antrim.

W. Bollaert, Esq., F.R.G.S.—On a Skull from Chimborazo. On the Hair of Canelos.

Dr. Davey, F.R.S.—On the Character of the Negro, chiefly in relation to industrial habits.

Lieutenant Eardley Wilmot and Dr. Beigel.—On the Hair of the Hovas of Madagascar.

Hodder M. Westropp, Esq., F.S.A.—On the Mythic Age.

P. Beveridge, Esq.—On Aboriginal Ovens of the Australians.

J. Park Harrison, Esq.—Flint Implements, etc., found at Arica, Peru. On Easter Island.

George Harris, Esq., F.S.A.—On the Distinctions, Mental and Moral, occasioned by Difference in Sex.

J. M'Grigor Allan, Esq.—On the Real Difference in the Minds of Men and Women.

J. Gould Avery, Esq.—Civilisation, with especial reference to the so-called Celtic Inhabitants of Ireland.

F. G. H. Price and Mr. Charles Hamilton.—On the Customs and Habits of the Kafirs.

John Shortt, Esq., M.D.—Description of a series of Skulls from India.

Dr. J. S. Cassimati.—Hints on the Noömetre.

Dr. G. W. Leitner.—On the Shiná People, and on his Linguistic Discoveries in the *Shiná* country, comprising the Chilasias, Ghilghitis, Astoris, Daraylis, and Goris; in *Khajund*, the language of Hunza; and in *Nagyr* and *Kalashá*, the language of East Kafristan.

C. Staniland Wake, Esq.—On the Race Elements of the Peoples of Madagascar.

3. Elections.—

Fellows: Forty.

Honorary Fellow: M. le Baron d'Omalus d'Halloy, Ciney, Belgique, has been elected an Honorary Fellow, in the room of P. Carus, of Dresden, deceased.

Corresponding Members: Professor Ernest Hallier, Jena; Dr. A. Weisbach, of Constantinople; Dr. C. Swaving, of Batavia, Java; Dr. August Hirsch, of Berlin.

Local Secretaries: Jamaica, Charles Gilman, Esq.; Island of Cyprus, Dr. Euclide; Sonora, Mexico, Frank W. Breach, Esq.; Toulouse, France, M. Emile de Cartailhao; Trebizonde, Turkey in Asia, J. W. Peebles, Esq.

4. Resignations.—58 Fellows.

5. *Deaths*.—The Council have to announce the loss of six Fellows by death, besides Dr. Hunt; viz.:

Messrs. F. F. Meadows, H. C. Bagnall, Robert Dyce, and F. R. Pinchis; and Dr. Fk. Snaith.

6. *Library*.—Contributions have been received from the following persons and public bodies:

E. B. Foote, Esq., F.G.S.; W. Pinkerton, Esq., F.S.A.; Dr. Michael Sars; J. G. Macvicar, D.D.; M. L. Lartet; Professor Rupert Jones, F.G.S.; Thos. Hunt, Esq.; Dr. S. Ruge; J. M. Winn, M.D.; J. W. Kaye, Esq.; T. Bendyshe, Esq.; H. Beigel, M.D.; Dr. Carter Blake; Lloyd P. Smith, Esq.; Dr. Pruner Bey; Scott Surtees, Esq.; Captain R. F. Burton; Dr. Barnard Davis; T. Squire Barrett, Esq.; Dr. Garbiglietti; Dr. G. W. Leitner; F. J. Jeffery; Henry Prigg, jun., Esq.; F. G. H. Price, Esq.; Dr. A. Weisbach; the Secretary of State for India; Dr. F. Pommérol; M. A. Quetelet; Dr. Langdon Down; W. C. Dendy, Esq.; Dr. Paul Broca; George Tate, Esq.; J. Bonomi, Esq.; M. le Comte Sage Strogonoff; Henry Woodward, Esq.; Sir Duncan Gibb, Bart.; Colonel A. Lane Fox; A. L. Lewis, Esq.; J. W. Jackson, Esq.; J. Fraser; Dr. Delgado Jugo; Dr. James Hunt; Dr. F. Müller; Professor W. Macdonald; J. F. Collingwood, Esq.; Dr. T. Ryan Tenison; Dr. A. Condereau; Professor Steenstrup; Dr. A. Bastian; R. Hartman, Esq.; Ed. Jarvis, M.D.; Professor A. Ecker; Captain Bedford Pim; Dr. Seemann; John Stuart, Esq., LL.D.; James Bonwick, Esq.; M. le Baron d'Omalus d'Halloy; Dr. Burmeister; Duc de Roussillon; the Canadian Institute; the Editor of the *Medical Press and Circular*; the Royal Society; the Royal University of Christiania; the Royal Academy of Sciences of Vienna; the Royal Academy of Dresden; Geolo. and Poly. Society of West Riding; Imperial Society of Moscow; Royal Institute of Palermo; Anthropological Society of Paris; Ethnographical Society of Paris; Asiatic Society of Bengal; Phil. and Nat. Hist. Society of Bengal; Royal United Service Institution; Royal Geographical Society; Geologists' Association; Ethnological Society; Imperial Academy of Sciences, St. Petersburg; United States Medical Department; Geological Society of Glasgow; Royal Society of Tasmania; Royal Society of Northern

Antiquaries; Royal Institution of Cornwall; Manx Society; the Editor of *Scientific Opinion*; the Editor of *Nature*; Royal Geological Society of Ireland; Cotteswold Nat. Field Club; Smithsonian Institute; Boston Society of Nat. Hist.; Essex Institute; Harvard College; Society of Antiquaries of Scotland; Academy of Nat. Sci., Philadelphia; Amsterdam Academy of Science; Editor of the *American Eclectic Review*.

7. *Museum*.—The following have contributed presents, which have been duly acknowledged in the *Journal*.

Dr. James Hunt, F.S.A.; Tom Craster, Esq.; W. Latta, Esq.; R. B. N. Walker, Esq.; Mrs. Burton; Dr. P. M. Duncan, F.R.S.; J. S. Wilson, Esq.; A. L. Lewis, Esq.; Professor Kopernicky; Rev. J. G. Wood, M.A., F.L.S.; Captain R. F. Burton.

8. *Publications*.—*Memoirs*: The third volume of the *Memoirs*, bound, price 25s., containing over 550 pages, and, amongst other papers, a very valuable one by Dr. Beddoe, "On the Stature and Bulk of Man in the British Islands," is now ready for delivery, and will be sent, post free, to all members on the Roll of the Society for 1870.

Anthropological Review: The executors of the late Dr. Hunt have undertaken to bring out the next two numbers of the *Anthropological Review*, as usual. The January number will shortly appear. The April number will include the biography of Dr. Hunt before mentioned.

Journal: The Council have under their consideration several plans for the future conduct of the Society's *Journal* and its other publications, of which due notice will be sent to the fellows.

Finances.—The income of the Society, exclusive of the balance carried over, has during the past year been £964 9s. 8d. The whole debt of the Society amounted on the 31st December, 1869, to £834 8s. 11d.

The Society has received from the sale of its publications during the year 1869, £58 16s. 2d. Each publication continues to have a small but steady sale, and the value of the stock in hand, exclusive of the Third Volume of *Memoirs*, estimated considerably below trade price, reaches £700.

The financial position of the Society is therefore sound; and notwithstanding the great, and in many ways irreparable loss which we have suffered, there is no reason to doubt the complete success of our Society, if the members will remain true to the science, and endeavour by enlisting fresh adherents, each to the best of his ability, and above all by the composition of scientific papers, to promote the cause and science of anthropology.

The Chairman then appointed Sir Duncan Gibb and Mr. Robert des Ruffières to act as scrutineers of the ballot which he declared to be open.

Mr. RANSOM moved, and Mr. J. STIRLING seconded the adoption of the Report.

Discussion having been invited, the following fellows of the Society took part in the same. Mr. Brabrook, Rev. Dunbar Heath, Dr. Beigel, Colonel Lane Fox, Mr. Hovenden, Mr. Walter Dendy and Mr. Avery.

The question was then put, and the Report was unanimously adopted.

The President delivered the Annual Address, as follows :

You can hardly fail to be reminded, when I rise to deliver the annual presidential address, of the several addresses of the kind previously delivered from this chair, all of which, except one for which we were indebted to our learned treasurer, Mr. Heath, were among the many benefits this Society owed to our departed friend, Dr. Hunt.

My predecessors have always given either a retrospective view of the achievements, or a prospective one of the duties and future action of the Society. It would be more pleasing to me to look forward to the future which is dawning on us. Our debt is very considerably lightened ; we have successfully weathered the trials of the year ; a certain number of members have left us, but some of these were little more than nominally members, while the residue may, we hope, be considered as tried and staunch supporters ; and, moreover, new members are continually joining our ranks. We have a volume of Memoirs to present to our fellows, containing some valuable papers ; and the Council have under consideration plans for effecting further improvements in the Journal of the Society, and thus keeping its readers fully abreast of the progress of our science abroad as well as at home. We have reason to expect valuable contributions from some of our local secretaries and foreign correspondents. Individually, I hope to have interesting matter for you from our friend Dr. Leitner, and from correspondents in South and East Africa.

But when we look back on the history of 1869, one black cloud overspreads and blots the retrospect.

It is not that the history of the year is in other points unsatisfactory. As I have already said, the debt of the Society has been very considerably diminished, while its property in the museum and library has continually been increasing. You have listened at our meetings to a number of papers containing a fair amount of original work or of speculative investigation, in various departments of anthropology ; and these meetings have been well, and in some instances very fully, attended.

What I may be allowed to call the ill-treatment of our science and its cultivators at the Exeter meeting of the British Association, apart from certain melancholy associations inseparably connected with it, is not, I think, a subject for regret ; for the injustice and impolicy of the course pursued by some of our opponents was so manifest as to provoke a decided reaction, and to add considerably to the probability that anthropology will obtain a fair recognition at the coming Liverpool gathering. Moreover, at a meeting convened by me at Exeter, with the advice and assistance of Dr. Hunt, and with a view to the furtherance of our efforts for such recognition, some of the most distinguished members of the Ethnological Society attended and made common cause with us ; all differences of opinion as to words and names being sunk for the time, and in relation to that important object.

Other events have occurred since that time, of good augury for our science, or for our society, or for both, and all tending strongly to confirm us in our belief, that we enjoy the best and most suitable name for a society with ends and aims such as ours. In the first place, a local Anthropological Society has been formed at Liverpool, and affiliated to our own. It counts very good names among its officers and active adherents, and bids fair to flourish and do good work. For the study of descriptive anthropology, I need hardly say that Liverpool affords as good a field as London itself, or perhaps even a better one in some respects. In Italy, at the metropolitan university of Florence, a chair of anthropology has been constituted, to be filled by Professor Mantegazza. And at Berlin an Anthropological Society has commenced what is likely to be a distinguished career, under the presidency of Professor Virchow, a man who touches nothing, from politics to pathology, which he does not adorn.

For this Society, however, the most important event of the year was a great misfortune, the premature and almost sudden death of our founder, colleague and friend, Dr. James Hunt, which took place at his residence, Ore House, near Hastings, on August the 29th, 1869, at the early age of thirty-six.

Dr. Hunt was born at Swanage in Dorset, in which county his family had been settled for many generations. His father, Mr. Thomas Hunt, while a student in the University of Cambridge, had had his attention attracted, by the infirmity of a fellow-collegian, to the subject of impediments in speech. He was a man of an original and inventive turn of mind, with considerable energy of character; and he devoted himself so zealously to the investigation of the nature of these impediments, and the means of removing them, that he became the most eminent authority, and the most successful practitioner in that way, in the United Kingdom. Mr. Hunt was not a member of the medical profession; but he was anxious that his son should bring to the further investigation and development of his system the advantages which a thorough medical education could give; and accordingly James Hunt entered on a regular course of medical study. He ultimately adopted as a profession the speciality of his father, abandoning the further prosecution of medicine as an art; but these early studies probably awakened in him the taste for anthropological investigation, and certainly gave him conspicuous advantages in its pursuit in after years.

In the study of the vocation he had chosen, he displayed the zeal and energy which so essentially characterised him in all his undertakings: he collected a complete library of works, English and foreign, bearing on the various branches of the subject; made numerous and valuable independent observations and improvements in treatment; and embodied the results of these studies in several published works, one of which, entitled *On Stammering and Stuttering, their Nature and Treatment*, was very much read, and in now passing through its seventh edition. Another, and a much larger and more comprehensive work, now out of print, was entitled, *A Manual of the Philosophy of Voice and Speech*. He was also the author of the

article on Stammering, which appears in a recent edition of the *Encyclopædia Britannica*; and at the time of his death he had in progress other works on the same or allied subjects. His practical success in the cure of impediments of speech has never, I believe, been equalled or even approached.

His first literary effort had been a memoir of his father. But it was in 1854, when he had but just attained his twenty-first year, that he began to give patent evidence of the bent of his tastes and the direction of his future career, by becoming a fellow of the Royal Society of Literature, and also of the Ethnological Society. He served on the council of the former for several years, became its Honorary Foreign Secretary, and held that office up to the time of his death. In 1856, he was elected a fellow of the Society of Antiquaries; and he usually devoted his vacation wanderings to the personal investigation of objects of archaeological interest, relative to which numerous interesting papers proceeded from his fertile pen.

I have said that as early as 1854 he joined the Ethnological Society. That Society had then been in existence about eleven years, from the time of its foundation by our much valued colleague, Dr. Richard King. It had had, in a certain sense, a predecessor in the Aborigines Protection Society, a body with mixed scientific and philanthropic objects, which had been constituted as far back as 1837. In 1842, Dr. King, perceiving that the scientific element of the society was altogether overshadowed by the philanthropic, and that a promising and rich harvest of science was being neglected, conceived the happy idea of founding an Ethnological Society, for the study of the distinguishing characteristics, physical and moral, of the varieties of mankind, and the causes of such characteristics. Towards the close of 1843 such a society was constituted, and for a series of years enjoyed an active and flourishing life.

Dr. Hunt, after his election, became a zealous and active member of the Ethnological Society. After some years, I believe in 1859, he accepted the office of Honorary Secretary. In that capacity he strove with great success to increase the strength, and re-kindle the flagging energy of the Society, which by that time had lost very much of the impetus originally communicated to it by Dr. King and his coadjutors. In recognition of the important services of Dr. Hunt, he was elected, on his resignation of the secretaryship after three years of zealous and successful service, to the well-merited distinction of an honorary fellowship.

About the same time, Dr. Hunt was also active in the geographical section of the British Association, in which he read an important paper at the Oxford meeting of 1860. He was, however, justly dissatisfied with the dislocated and inferior position held by his favourite subject in Section E of the Association. He saw, moreover, that in view of the rapid development of pre-historic archaeology, and the dawn of light shed thereby on the science of man; in view, too, of the increasing interest acquired by such questions as that of the origin and variation of species, and of the connection of anatomy and psychology, it was necessary that a society should exist in Eng-

land which should avow broader and loftier aims than those of the Ethnological. He saw, too, that the Anthropological Society of Paris, which had recognised his scientific labours and position by conferring on him the title of Foreign Associate, had on such principles achieved a brilliant and successful *début*. Meanwhile, the science of man in its various branches was being cultivated assiduously by eminent men, not only in France, but in Germany, Switzerland, Sweden, Russia, and America; and it was Dr. Hunt's desire to furnish a means whereby the advances and acquisitions of the science in other countries should become available to its students in his own country.

Though he had succeeded in greatly advancing the interests of the Ethnological Society, and though many of its members duly appreciated the expansive views and projects of Dr. Hunt; he was not able, in consequence of the opposition of others, to remodel that society as he wished. He was thus led, in 1862, to conceive the idea of founding a new society, whose scope should, in his own words, embrace, "everything that would light on the physical or psychological history of man," and which should accept the aid of "the geologist, archæologist, anatomist, physiologist, psychologist and philologist;" and which should also take account of the progress of anthropology in other countries, and, as a publishing society, communicate to its fellows, by translations and republications, the most important works of its foreign cultivators. He chose for the projected society the name of Anthropological, as being older, more significant and more comprehensive than that of Ethnological, and as having also been adopted, or being in process of adoption, by scientific bodies and individuals in foreign countries. And it was his hope that the new association would in the fulness of time embrace and incorporate the old one, as the word anthropology embraces and comprehends that of ethnology.

In carrying out the idea he had conceived, his sanguine energy and unceasing industry told with great effect; and in February 1863, when the first meeting of the Anthropological Society of London was held, he had already obtained an amount of success, in the numbers and scientific status of those who had given in their adhesion, which amply justified the course he had taken. In the capacity of president of the new society he delivered an introductory address on the study of anthropology, which was one of the best of his works, at once farsighted and moderate, enthusiastic and cautious.

It was at this period that Dr. Hunt set on foot the *Anthropological Review*, which was meant to be a means for diffusing miscellaneous information on anthropological subjects, and also for reporting the proceedings of the Society. This publication, however, soon crystallised itself, as it were, into its two essential elements, the *Review* proper, which was still carried on by Dr. Hunt, and the *Journal* of the Anthropological Society, which was published and issued simultaneously with the *Review*.

The subsequent history of Dr. Hunt, as a man of science, is as well known to such of my hearers as were early adherents of the Society as it is to myself. For he so thoroughly devoted himself to

Dr. INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING DECEMBER 31st, 1869.

Cr.

To Balance, January 1, 1869:

Bank	93	9	1	
Collected in 1868	7	17	6	
In hand, petty cash	10	12	1	
„ subscriptions	3	4	0	
				115 2 8

To Subscriptions received, 1869:

Annual ... { Secretary	£445	9	4	
Collected	239	8	0	731 1 4
Bank	46	4	0	

Life Compositions

To Subscriptions on account of arrears:

1863-6	£12	12	0	
1867	10	10	0	77 14 0
1868	54	12	0	

To Subscriptions in advance for 1870

To Sales of Publications:

Waitz	£6	12	7	
Broca	2	1	11	
Pouchet	2	8	0	24 8 0
„	6	2	7	

By payments on account of printer:

Memoirs, vol. ii, balance	119	7	0	
Anthrop. Rev., 1867 account, balance	200	0	0	
General account 1867, balance	103	5	2	
General account 1868, balance	32	17	8	455 9 8

By payments on account of

Reporting	28	17	6	
Advertising	13	7	4	
Lithography for vol. iii Memoirs	15	0	0	57 4 10

By salaries, etc.:

Secretary, year's salary	100	0	0	
Gray and Prideaux, accountants	3	3	0	
Commissions: Collector	£20	14	2	
Bank	0	6	11	21 1 1
Wages, and gratuities £1	40	0	0	164 4 1

By rent, office expenses, sundries, etc.:

Rent, Michaelmas 1867 to Christmas 1868	162	10	0	
Office expenses, sundries	6	7	6	
Printing	£29	9	8	
„	4	0	0	

Proceedings of the Society.

widow and five children, and honorary memberships and other distinctions from scientific bodies, testifies to his high position, a position rarely attained. He became a doctor of philosophy in 1867, received the degree of Doctor of Medicine in 1870. He was a member of the Leopoldina, the Medical Association of Darmstadt; of the Société Parisienne d'Anthropologie; of the Congrès International d'Anthropologie; of the Anthropological Society of Spain; of the Société de Biologie, etc.

He was, however, his chief and real monument. Long may it endure and flourish!

My colleague, the appreciation of his character, I think, would be found, emanating as I did and do, the warm and unselfishness of his nature.

It is only he appeared to me to think solely of the Society.

Quick of thought, of feeling, and ready to put into expressions which might have been of others; but no one was so ready in response for those susceptibilities, and to do, or even more than was due, to the Society.

In my own official capacity, during the last year, he showed much to his kindness and confidence at my service, but was never forced to sacrifice himself and his feelings to the Society and its conductors.

He moved, and Sir DUNCAN GIBB seconded, that the Society be given to the President for his services. — Carried by acclamation. He returned thanks.

Mr. CHARLESWORTH, the thanks of the Society for the services of the retiring officers and Members of Council. — Carried. — and Dr. CHARNOCK seconded, a vote of thanks to Mr. E. W. Brabrook and Mr. A. L. Lewis. — Carried.

On the motion of the Director, and on his behalf, Mr. GIBB proposed the following resolution:

That the Regulation 20, by omitting the words 'No more than one-third of the voters concur in the proposal,' be amended, or rescinded except at the Annual Meeting, only on the proposal of the Council, and only by a majority of those voting."

the interests of the new body, to which he was bound by so many reciprocal ties, that he may be said to have lived chiefly in and for its life and prosperity.

During four years he continued to preside over it, having been three times re-elected to do so. Seeing that the Society had long been established on a firm basis, he was anxious to retire from this position; and in 1867 Captain Burton was elected to succeed him, but Dr. Hunt, as director, continued to labour for the welfare of the Society, the presidency of which he somewhat reluctantly consented to reassume in 1868. Besides many papers of less importance which appeared in the *Anthropological Review*, or in the transactions of the British Association, he produced during this period a series of annual presidential addresses, and a paper on the negro's place in nature, which attracted much attention, and long furnished a text of contention for the two extreme schools of opinion respecting the negro; moreover, he translated for the Society Carl Vogt's *Lectures on Man*. He also personally investigated the barrows, megaliths, and other prehistoric monuments of Shetland, Dorset and Bretagne, carried out an extensive series of cephalometrical observations in Norway, and communicated the results of his labours, in more or less detail, to the Society. And at the annual meetings of the British Association, he continued loyally and unweariedly to struggle to secure for his favourite science suitable and permanent recognition, obtaining various measures of satisfaction or disappointment, but remaining always confident of ultimate success.

After his retirement from his fourth presidency, a portrait testimonial was presented to his family by a number of fellows of the Society, in order to mark their sense of his great labours and deserts. During his fifth presidency occurred the *rapprochement* between the Anthropological and Ethnological Societies, which at one time seemed likely to lead to an amalgamation, to which the way had been paved by the pretty general adoption of the principles on which the former had been founded. It may suffice to remind you that on the failure of the negotiations, which occurred through no fault on Dr. Hunt's part, he loyally carried out an engagement which he had made, by resigning his office, to which Dr. Barnard Davis was elected; but at the entreaty of that gentleman and of the society generally, he consented to retain the presidency until January 1869, when he finally retired from it. His constitution had never been very robust, and during the period at which he was most actively exerting himself for the Society, he had sustained more than one serious illness. His health was rather below par in August of the past year, when the Exeter meeting of the British Association occurred, notwithstanding which, having been appointed to take charge of the interests of the Society at the meeting, he repaired to Exeter in order to fulfil that duty. The weather at the time was unusually hot, and the sun very powerful, and to that sun Dr. Hunt appears to have incautiously exposed himself, at the time when his brain was much overwrought. Acute inflammatory symptoms set in: he was at once removed to his home under the care of his friend and colleague, Dr. King; but in spite of all that could be done, he breathed his last within a week,

leaving behind him a widow and five children, and a wide circle of sorrowing friends.

A long list of honorary memberships and other distinctions, conferred on him by foreign scientific bodies, testifies to the position he held among foreign savans, a position rarely attained at so early an age. In 1855, he had become a doctor of philosophy in the University of Giessen, and in 1867, received the degree of doctor of medicine, *honoris causâ*. He was a member of the Leopoldine Academy, Dresden; of the Medical Association of Darmstadt; of the Upper Hesse Natural History Society; of the Société Parisienne d'Archæologie et d'Histoire; of the Congrès International d'Anthropologie et d'Archæologie Préhistorique; of the Anthropological Society of Paris; of the Sociedad Antropológica Española; of the Société des Amis de la Nature de Moscou, etc.

As a man of science, however, his chief and real monument is the Anthropological Society. Long may it endure and flourish to do honour to his memory!

As a man and as a colleague, the appreciation of his character is not difficult; and few indeed, I think, would be found, who would not agree with me in estimating as I did and do, the warmth of his heart and the singleness and unselfishness of his nature. In all he said and did for the Society he appeared to me to think solely of its interests; and when his reason was convinced he was always ready to sacrifice his feelings. Quick of thought, of feeling, and of speech, he was sometimes hurried into expressions which might have grated on the susceptibilities of others; but no one was so ready in cooler moments to make allowance for those susceptibilities, and to concede everything that was due, or even more than was due, to the merits of an antagonist. In my own official capacity, during the last few months of his life, I owed much to his kindness and consideration: his advice was always at my service, but was never forced upon me; and he was always ready to sacrifice himself and his feelings, to assist in smoothing the path of the Society and its conductors.

Mr. E. W. BRABROOK moved, and Sir DUNCAN GIBB seconded, that the thanks of the Society be given to the President for his address, and that it be printed.—Carried by acclamation.

The PRESIDENT returned thanks.

On the motion of Mr. CHARLESWORTH, the thanks of the meeting were voted to the retiring officers and Members of Council.

Mr. HARRIS moved, and Dr. CHARNOCK seconded, a vote of thanks to the Auditors, Mr. E. W. Brabrook and Mr. A. L. Lewis.—Carried unanimously.

In the absence of the Director, and on his behalf, Mr. C. STANLAND WAKE moved the following resolution:

"To alter Regulation 20, by omitting the words 'No rule shall be altered unless two-thirds of the voters concur in the proposed change,' and to make a Regulation 58, as follows: 'No Regulation shall be made, altered, or rescinded except at the Annual General Meeting, and then only on the proposal of the Council, and by a majority of three-fourths of those voting.'"

No Fellow having seconded it, the Resolution was not put from the chair.

Mr. WAKE proposed, and Dr. CHARNOCK seconded, the following change in Regulation No. 4 :

"To alter Regulation 4, by omitting the words 'as well as *ex-officio* all ex-Presidents of the Anthropological Society of London.'"—Carried.

The Report of Scrutineers was brought up and read, as follows :

"*President*—John Beddoe, Esq., M.D.

"*Vice-Presidents*—H. Beigel, Esq., M.D. ; Captain R. F. Burton ; Dr. Charnock ; J. Barnard Davis, Esq., M.D., F.R.S. ; Captain Bedford Pim, R.N. ; Dr. Berthold Seemann.

"*Director*—Thos. Bendyshe, Esq., M.A.

"*Treasurer*—Rev. Dunbar I. Heath, M.A.

"*Council*—J. Gould Avery, Esq. ; J. Burford Carlill, Esq., M.D. ; S. E. Collingwood, Esq. ; Walter C. Dendy, Esq. ; George Harris, Esq. ; Jonathan Hutchinson, Esq. ; W. D. Kesteven, Esq. ; Kelburne King, Esq., M.D. ; Richard King, Esq., M.D. ; A. L. Lewis, Esq. ; St. George J. Mivart, Esq., F.R.S. ; Major S. R. I. Owen ; Edward Peacock, Esq., F.S.A. ; J. Spence Ramskill, Esq., M.D. ; C. Robert des Ruffières, Esq. ; John Thurnam, Esq., M.D. ; W. S. W. Vaux, Esq., F.R.S. ; C. Staniland Wake, Esq. ; Alfred Wiltshire, Esq., M.D. ; E. Villin, Esq.

"We find the above to have been duly elected Officers and Members of Council for the ensuing year.

(Signed) "G. DUNCAN GIBB.

"C. ROBERT DES RUFFIÈRES."

On the motion of the President, thanks were voted to the Scrutineers, and the meeting separated.

FEBRUARY 1, 1870.

Captain BEDFORD PIM, R.N., V.P., IN THE CHAIR.

THE minutes of the previous meeting were confirmed.

New Fellows were announced ; viz., Sir Richard D. Hanson, 9, Neville Street, Onslow Gardens, S.W. ; and Samuel Nash, Esq., 44, Renshaw Street, Liverpool.

The list of presents was read as follows, and the thanks of the meeting were voted to the donors.

FOR THE LIBRARY.

From A. RAMSAY, Esq.—Supplement to the English Cyclopædia, Natural History, Parts 7 and 8.

From the AUTHOR.—The Love Poems of all Nations. By Joseph Kaines, Esq.

From Dr. C. CARTER BLAKE.—The Geological Magazine, No. 1, vol. vii.

From Dr. E. T. RYAN TENISON.—British Medical Journal, to date.

From the EDITOR.—Nature, to date.

- From the IMPERIAL ACADEMY OF SCIENCES, Vienna.—Sitzungsberichte der kaiserlichen Akademie der Wissenschaften Philos-histor. Classe, 60 Band, Heft 1, 2, 3. Ditto, 61 Band, Heft 1. Math.-Naturw., 1868, 1 Abtheil., 6, 7, 8, 9, 10; 2 ditto, 7, 8, 9, 10. 1869, 1 ditto, 1, 2; 2 ditto, 1, 2, 3. Register der Philos-histor. Classe, Heft 6.
- From the AUTHOR.—Has the Law of Natural Selection by Survival of the fittest failed in the case of Man? By Lawson Tait, Esq., F.A.S.L.
- From the GOVERNMENT OF NEW ZEALAND.—Statistics of New Zealand for 1868.
- From the AUTHOR.—Madagascar and the Malagasy. By Lieut. S. P. Oliver.
- From Dr. G. GERLAND.—Anthropologie der Naturvölker, vol. v. Dr. Theod. Waitz.
- From the SOCIETY.—Proceedings of the Asiatic Society of Bengal, No. x. Journal ditto, No. 111.
- From the AUTHOR.—The Theory of the Arts. 2 vols. By George Harris, Esq., F.S.A.
- From the AUTHOR.—Die Pfahlbauten im nördlichen Deutschland. Professor Virchow.
- From the SOCIETY.—Mémoires de la Société d'Anthropologie de Paris, tome iii, fasc. ii.
- From the SOCIETY.—Proceedings of the Society of Antiquaries of London, Nos. 3, 4, 5, and 6.
- From the UNIVERSITY OF CHRISTIANIA.—Generalberetning fra Gaustad Sindssygeasyl for aaret 1868. Norges Officielle Statistik udgiven 1 aaret 1868, c. No. 4; ditto, c. No. 5; 1869, c. No. 5. En Anatomisk Beskrivelse af de paa Over-og Underextremiteterne forekommende Bursae Mucosae. By A. I. D. Synnestvedt and Dr. J. Voss.

Major FREDERICK MILLINGEN, F.R.G.S., then read a paper "On the Negro Slaves in Turkey."

Few are the places on the face of the earth which can exhibit a greater variety of specimens of the human race than Stambul, the capital of the Sultan. From the white Caucasian to the black Negro, all the intervening tints and complexions are to be seen within the precincts of this metropolis, which, now-a-days, is what Babel must have been at the time of its famous tower. Amongst these various races, the African stands conspicuous on account both of the tint and of the number of its members. That this people forms an important portion of the population of Stambul, is evident enough when one considers that it is scarcely possible to pass through one of the streets of that town without meeting a negro, whether male or female.

Judging from this circumstance, it might even be inferred that the negro population of Constantinople is much greater than it really is. To ascertain exactly the total of these African inhabitants is rather a difficult task, as in the last Turkish census (1864) the different members of a harem figured in the computation on a rather queer principle. The local authorities adopted, as a statistical system, the plan

of not drawing any distinction whatsoever between a wife and a servant, or between a white and a black face. For the Turks, evidently, the generic substantive "women" is enough to express the species; what is the use of drawing fictitious distinctions between them? I shall not be, however, very far from the truth in calculating this negro population at 30,000 souls, a computation which has, as starting point, the fact that the sixty thousand Mussulman houses of Stambul and the suburbs possess, on an average, one slave for each two houses.

Unlike their kinsmen who have colonised the southern portion of the great American republic, the negroes of Turkey are not natives of the country, they have all been imported from Africa at a more or less advanced period of life, between the average ages of ten and twenty-five. Central Africa, the mother country of both, is the source out of which have flown for centuries two streams of forced immigration, one pouring its contingent westward by the Niger, and the other northward by the Nile.

To two causes is to be attributed the phenomenon that human beings are inflamed by the rage of profit, so far as to attack, kidnap, and sell each other, without pity or mercy. One of these causes is internal, particular to the country from where the slaves are brought, and originates from the rivalry, feuds, internecine wars, and the cupidity of the savage inhabitants of central Africa. From these arises the supply. The other cause of slavery is external, namely, the high premium offered as a reward to any one who succeeds in getting hold of his neighbour's daughter, wife, or sister, to exchange for the highest price. This cause acts more directly on the slave question—it constitutes the demand. The causes of supply and demand are so twisted and blended together that they secure to each other mutual support; it is evident that the existence of the one implies the co-existence of the other. The wild and ferocious negro quarrels with his neighbour, pitches into him, and thinks proper to indemnify himself for his pains by seizing any one of his enemies he can get hold of. Whether at that moment he speculates on the market prices or not, is immaterial, while the result sanctions such a supposition. A point, however, which ought to be taken into account as a sort of attenuating circumstance on behalf of the negro warrior is this, that though it may be easy to preach to him the immorality of his conduct, it would not be quite as easy to persuade him that it is such. Suppose the negro brings forward a logical objection to defeat the liberal aim of the philanthropist; and says, "that's very well, my good sir, but what do you advise me to take as an equivalent to human flesh? goods: we have none, our only property is a piece of linen which takes the place of the rather too primitive fig-leaves; what are we then to take, when victorious, from our enemies? must we return from the battle-field without booty, and with our hands empty? surely not—we make our enemies slaves and sell them to those who have riches to give us instead."

This way of reasoning is of a nature to justify slavery under existing circumstances, as slavery is evidently here the inevitable conse-

quence of war; in the impossibility of putting a stop to the latter, it would be lost labour to attempt to prevent the former. The evils of war bear a just proportion to the degree of civilisation attained by the fighting parties. The history of all nations puts this theory beyond doubt; we see there that the Briton or Celt was formerly as inveterate a slave-dealer as the African is to-day. This proves, therefore, that the negro finds it profitable to catch and sell slaves, and that necessity as well as custom sanction and legitimise such a practice.

The markets from which the Negro derived his profits were two—Turkey and America; of these, one has finally withdrawn from competition, whilst in the other the demand still exists.

The influence of the market over the slave question constitutes the second cause, the external one. Demand is a paramount point in any transaction, but especially in the present case the relation between demand and supply is such, that it may be asserted, without fear of exaggeration, that it is to this demand for slaves that are to be attributed the desultory and bloody wars which are waged in central Africa. If, in some instances, a tribe may attack another for reasons unconnected with the cupidity for slaves, most frequently it is owing to this cupidity that *razzias* take place, and that the conflicts which ensue are more sanguinary and more protracted. Thus it is but just to hold the late slave-holders of America, as well as the present Mussulman slave-holders, answerable for the wars of extermination of which their thirst for human victims is the cause. It is evident that if now the customers of Cairo, Mecca, or Constantinople, were not bidding twenty or thirty pounds for a slave, the victorious Negro chief would let the vanquished go free, or, at least, would allow him to exist under a sky congenial to his nature. Having exposed the motives which stimulate the Negro races to supply the markets with their enslaved brethren, I shall now explain the motives for the demand for slaves, and the reason why African slaves are so much sought after in Turkey.

The slave-holding countries in the East are Turkey, the regency of Tunis, Morocco, and Persia; in these markets the demand for Negro slaves arises exclusively from Mussulmans, the Christians being seldom slave-holders. Amongst the Mussulmans, however, the use of having slaves is universal; with them it is just as natural to have negro slaves as it is to have cats or dogs in the house. But at the same time it must be taken into account that this great demand for Negro slaves is based upon reasons far above fashion or fancy, as slavery is inherent in the religious and social system of Mohammedanism, and is congenial to the ideas and customs of Mussulman nations. This assertion that slavery is inherent in the very system of Islamism will startle many who believe in the compatibility of that antiquated system with modern civilisation. The arguments, however, which I am going to bring forward cannot fail from establishing such a fact as an axiom, putting it thus beyond the pale of controversy. I will therefore prove that slavery is inherent in the religious system; inherent in the social system; and, also, congenial to the ideas and customs of Mohammedan nations.

One of the earthly rewards which the Koran holds out to the victorious Moslem is that of reducing to bondage his foe, and of disposing of him as he chooses; his soul excepted, everything belongs to the conqueror, even his dead body. The religious and political system of Mussulmanism being based on the principle of perpetual war, *Djehad*, enticements for the present and for the future life constitute an essential part of the system, and the right of possessing slaves is one amongst them.

This right is of course transferable, as any other title to property is; therefore the dealer who has made the acquisition of a slave from the original proprietor, the Negro conqueror, or the Arab kidnapper, commits, legally, his right to any customer (a Mussulman of course) who may bid the highest price. According to the Koranic law, such is the hold of the master over the slave that no earthly power is allowed to interfere between them; the master is answerable only to the Almighty for the manner in which he treats his slave. This unlimited power exerted over the slave is often the cause that masters take with impunity the lives of their slaves. The authorities, in such cases, either ignore or feign to ignore the event, because, legally, they have no right to interfere. According to the Koran, the only persons who may legally claim blood for blood in criminal cases are, either the nearest relations of the deceased, or (in case of a slave) his master. Now, in an instance of this sort, it is not likely that a master should present himself, asking from the tribunal justice for the blood of the slave he has himself slain. The Mussulmans, as a mass, are very tenacious of this right of holding slaves, and they will not allow that an infidel can indulge in such a luxury. As for European philanthropists, who try to put a stop to such a practice, they heartily wish them at the world's end.

Having briefly explained the theory of slavery as it is established by the Koran and understood by its followers, I will now come to the second point, and show how slavery is a social necessity amongst Mussulmans; to be convinced of this, one must bear in mind that in Mohammed's system, religious tenets and social laws are twisted and impasted together, forming, of the whole concern, a thorough gordian knot. It is on account of these difficulties, of a technical as well as of a practical nature, that the action of modern ideas always meets in the Mussulman element with an inert mass which never yields to persuasion, but only recoils before pressure. And what other explanation can be given of the great obstacles Sir Samuel Baker avows to have met with in the execution of his scheme for the suppression of slavery?

According to Lord Houghton's statement, made before the Royal Geographical Society, "the Egyptians did not seem to be disposed to support any such undertaking of Sir Samuel Baker's as the suppression of slavery, for the very simple reason that it is through the slave trade that they obtain a constant supply of domestics for their households." The discovery is a good one; but if this is so far true for the Egyptians, it is the same for the Turks, the Persians, and all other nations who live under the same system. Yes, this avowal of

Sir Samuel Baker's discloses the secret of the demand for Negro slaves: a supply of domestics is required to keep up the harems of the high and middle classes of Mussulman society, and Negritia must pour forth a constant supply of slaves. And this, because slaves are as much an essential part of the harem system, as the harem itself is of the religious and social system of Islam. The seclusion of women is for the Mussulman what one of the ten commandments is for the Christian; but how can that seclusion be enforced, if all the members of the harem are not submitted to the pressure of the same bondage? One or two women cannot, evidently, be kept tightly under lock, while their maids and attendants are free. Slavery is the natural consequence of seclusion.

The Mussulman religion once adopted, its system must be carried through; there is no alternative. If the Mussulman is to remain a Mussulman (I mean even of a medium standard, and not merely a bigoted one) he must protect the sacredness of the conjugal tie by shutting up his wife or wives in the best manner he can. Wives are, therefore, cut off from the outside world by all sorts of contrivances, amongst which is that of having slaves instead of free-born servants, who could serve as mediums to dangerous ideas and still more dangerous customs. It is evident that if the attendants of the harem were such, not only the hold of the master over them would be of little efficacy, but the outer world might become acquainted with scandals of all sorts.

To employ slaves is by far more convenient. For this end, the prudent Turk takes good care that the slave he buys should have *his eyes tied up*, a phrase which means that the first quality which a slave must possess is to be blind to the tricks and disorders of his master. Once in the harem, the white or Negro slave is submitted to the same system of seclusion as her mistress or mistresses are. A circumstance which renders the use of slaves indispensable, and forms an obstacle to the employment of free-born female attendants, is the formal injunction of the Koran to the effect that, not only the face, but the hands also, of a free-born Mussulman woman are to be concealed from strangers.* Is it possible that a servant maid could serve about the harem, day and night, thus muffled up, fearing lest the master of the house should let his eyes fall upon her face or hands? Even if the maid happened to be not very particular on this point, custom, the fear of comments, and the disapprobation of her relatives, would prevent her from violating ostensibly the laws of Mussulman religion. It is easy to understand, then, how people should object to employ girls wrapped up like so many bogies in white veils and sheets. The employment of Christian women has been thought of, as their religion would remove the inconvenience above stated, but the Mussulmans strongly object to it on grounds of self-preservation against the encroachments of the Christian element. The few Pashas who have employed Christian servant girls, adopted this course from motives of

* The Sherihat orders that the upper part of the hand is to remain concealed. As for the inside, a woman can show it; otherwise she could not even beg alms for her relief.

policy—with the object, I mean, of gaining in the eyes of Europeans.

Having so far shown that slavery is inherent in the religious and social system of Islam, it remains to be seen how slavery is congenial to the ideas and customs of Mussulman nations.

It is one of the characteristics of Orientals to lean towards despotism, whether it be actively or passively. The same annals which record the names of the despots who have crushed the East under their feet, testify to the servility of their subjects. Slavery has never had very repugnant features in the eyes of Orientals. The Turk is far from being an exception to the general rule: by instinct, in his own limited sphere, he must be either a despot, or the servant of a despot stronger than himself. Nothing can better satisfy the vanity of a Turk than to look upon himself as the master of some human being; as he contemplates two or three slaves standing silent and with folded arms before him, the Turk rises infinitely greater in his own estimation. This feature of the Turkish mind is tangible, and can be traced not only in the customs of the people but in their very idiom, common sayings, and proverbs. For instance, if, during the course of familiar conversation, a Turk wishes to say something in the shape of good omen, he will say, "*Kull kiolleh shaibih olah*," which means that the person in question may be lucky enough to become the master of numerous slaves. From the cradle, vaticinations of this sort are constantly made by mothers and nurses to their babies, while singing them to sleep; one of those verses ends in this way, "*Kull alaik hep bundah*," the meaning of which is, "Male slaves, female slaves, all will belong to him." Another remarkable thing of this sort is, that the phrase, "your servant," *votre serviteur*, is never employed by the Turks, but "your slave," "the most abject of your slaves," etc. In all such phrases, the word slave is employed instead of servant. On the strength of such evidences, I do not hesitate to assert that the slave holding passion has its roots in the very heart of the Turks, and that it is congenial to them as well as to the other Mussulman nations.

I must not omit to add here that the demand for slaves is founded also on pecuniary advantages; that the negro female slave is a lucrative article is proved by the following figures. Fifteen purses, say £75, is the maximum price of a strong and healthy negro, provided she is a good cook. Now, as it is difficult to find a cook amongst free-women under £15 per annum, an easy calculation will show that in the fifth year the negro slave will have redeemed her purchase money. That is surely a good investment in which the capital is doubled within ten years.

After having exposed the causes to which the supply and demand for slaves is to be attributed, I will now undertake to describe the manner in which slavery is carried on in Turkey, and show what lot attends the slaves. Reduced to the condition of slaves, the negro captives leave their country either following the course of the Nile, crammed twenty or thirty together in a boat, or they traverse, half on foot, half on camel's back, the wastes separating Central Africa from the countries bordering the Mediterranean and the Red Sea.

That the slaves imported into the dominions of the Sultan come from the regions neighbouring the sources of the Nile, is ascertained from the fact, that on questioning the negroes of Stamboul with reference to their native countries, they will invariably mention Kordofan, Darfur, Dangola or Abyssinia. The valley of the Nile is not, however, the only outlet of slavery, as many slaves are exported eastward to the market places of Arabia, while numbers cross the great Sarah and reach Tripoli of Barbary, and the frontiers of Tunis and Morocco. Living stock requires a greater number of entrepôts than goods in general do ; so, for the negro slave-trade entrepôts have been established at Gondokoro and Khartum on the Nile route, Massovah and Soakin to the east, and Fezan on the Sarah route. From these entrepôts the human merchandise is packed off to the chief emporiums at Cairo, Alexandria, Constantinople, Smyrna, Beyruth, Jeddah, Mecca and Medineh.

From the very outset on leaving their native land begins the career of toil and privations which is allotted to the poor slaves ; a thin garment covers their nakedness, and a white woollen blanket renders to them the services of cloak, quilt and mattress. Without any regard for either Mussulman decency or Christian philanthropy, men, women, and children are thrown promiscuously by their dealers into a boat or within the precinct of a filthy eastern *khan* (inn), where dry bread and soup every twenty-four hours is given them, so as to preserve them alive for the market place. It must be known that ill-treatment is a part of the craft of slave-dealers ; by this method the slave is sure to look up to the first customer as a deliverer and a benefactor, and will therefore show no great dislike at being sold.

The greatest part of the negro slaves imported into Turkey are females, and this for the reasons above stated, that the demand is exclusively for domestics serving in the harem. In Arabia, however, the case differs, as the inhabitants there do not seem to object to have African women as wives and odalisks. This practice has been carried to such an extent that, according to some travellers, its effects have been highly injurious to the purity of the Arabian blood.

The demand for negro men or lads is very slack in the large towns, but in the country they are sometimes required to watch and superintend workmen in the field. Eunuchs form, however, an exception, they being highly thought of ; the Sultan of Turkey, the Sultan of Morocco, the Khedive of Egypt, all of them possess a staff composed of several hundreds of eunuchs, who are expected to fulfil the duties of guardian angels of the harem. The grandees of those different courts also employ these wretched beings with just as much ostentation as a European aristocrat prides himself on his *chasseur's* feather cap. In the east, besides, the eunuchs are considered indispensable mediums between the harem and the outer world.

The barbarous operation to which are submitted these unhappy creatures does not take place at Cairo or Constantinople : the negro lads of fifteen or sixteen are mutilated while stopping at the entrepôts, at Gondokoro, Khartum, etc. It seems that only one out of three survives the operation. The pitiless slave-dealer, proof against all

feeling, calculates only that he must sell the stock he has in hand, with mutilation or not, at the best price it can fetch.

The eunuchs are, however, the most favoured among the negro slaves, their career being relatively a happier one. Owing probably to their neutral standing, they are on a footing of intimacy with both sexes. In the imperial household they enjoy influence and power, the Kizlar agasi, the chief eunuch, holding in the state an equal rank with the Grand Vezir, the Premier.

Let us now see what befalls the generality of negro slaves when they once make their *début* on the market-place. Some twenty years ago on their arrival at Constantinople, the slaves used to be stored up within the precincts of an imperial slave market, as at that period the slave-dealers were patentee-merchants. Such a scandal could not, however, be patronised any longer, and the Turks have continued the trade in an underhand way. Non-official markets were then opened at Sultan-Mehemet, at Tophaneh, and in some of the cafés and shops of Stambul. One of these places is opposite the mosque of Suleimanieh in the bazar named Teriaki-tcharshisi, the third shop to the left, looking westward, if my memory does not fail me. In these markets slaves are sold daily, the hours of brisk business being from eight to twelve a.m., Turkish time. Up to A.D. 1869, this state of things was in existence. The thirty or forty girls that come on the market at the same period, all find customers quickly enough: the Abyssinians on account of their good looks are the first to be disposed of; they are taken as upper servants in the harems of those whose limited means forbid them to indulge in a thorough-bred Circassian. The Abyssinians are also taken as economical odalisks by the lower class of amateurs. The genuine negro girls with flat noses and thick lips are doomed to the kitchen and the rough work of the house.

On being raised from the market the new master sends the slave to the bath, and gives her a clean set of linen and a calicot suit of clothes. If the master happens to be a good-hearted man, the slave has a chance of being properly fed and clad; besides this she may obtain two or three shillings a month pocket money. On these terms she may go on for years till her frame gives way. There are cases in which negro slaves become old servants, loved and considered by their masters, and pass thus happily their old age. It happens sometimes also that slaves are freed by the master, and are established in life by marrying some old servant of the house; such cases are not, however, frequently met with.

As a rule, the lot attending these creatures is sad. They pass through the hands of ten or twenty masters, who make them lead the life of cab-horses, beat them at intervals, and at last sell them. Such treatment irritates the temper and inflames the passions of the African destitute, who, driven to despair, becomes a fury, wages war against her oppressors, and ends by becoming a hater of the white species. It is not to be wondered, then, if negroes have often been known to set fire to the wooden houses of Stamboul, as being the best means of retaliation they could devise.

After having been sold and re-sold over and over again, the negro

slave gets at last in a condition to be not even worth feeding ; then she obtains her freedom, and she is let loose in the streets of Stamboul, without the means of subsistence or the power to provide for herself. Her lot then is to roam about town a cripple and a beggar. Many of them, however, knowing what is in store for them, do not wait for the arrival of the bad season, and try to provide for themselves beforehand. Either through the assistance of their kinsmen, or with the money which they have been able to save or somehow to steal, they manage to buy themselves free from the market. Alarmed at the consequences which might result from the existence in the capital of numbers of freed negroes, destitute of everything, the Turkish Government formed of these fellows a regiment some six or eight hundred strong. The special duty of these men is that of storing into the arsenal the timber which comes to Constantinople in rafts from the Black Sea. Two queer sorts of trade practised by freed negro-males are those of sorcerers and of chemical confectioners. The sorcerers manage to get a good living by working on the credulity of a superstitious population. They employ sacred fumigations and beverages, and distribute talismans (*nuskhas*) good for all evils. The chemical confectioners go about the streets selling a miraculous jam, which is highly patronised by the impotent proprietors of harems.

One of the peculiar features of the emigration of Negro slaves into Turkey is the fact that, though many of them marry among their kinsmen, and also with the whites, their progeny becomes extinct in the first or second generation. A descent in the third degree from pure Negro race, or from mixed lineage, is scarcely ever to be met with. The following statistics, the result of my personal observations, will serve to illustrate this statement.

CROSSED DESCENT.

Arab-Aisheh.....	First descent.....	Second, none.
Colonel Arab Seid Bey	First descent.....	Second, none.
Major Ali Bey	First descent.....	Second, none.
General Mehemet Pasha	First descent.....	Second.
Mustapha	First descent.....	Second.
Atijeh	First descent.....	Second, none.

NEGRO DESCENT.

Hadji Abdullah	Six wives.....	First, none.
Fathmah-gadun.....	Three husbands.....	First, none.
Kanedji Mustapha.....	One wife	First, none.
Djeveri.....	One wife	First.

It must be remarked that, in many cases, the offspring, whether of first, second, or third descent, die while in infancy, the race becoming thus extinct. The negro Hadji Abdullah offers a most curious illustration of this phenomenon. This old fellow was an athlete in strength and size ; but of the twenty and so many children which he had from his various wives, not one outlived the period of infancy.

The sterility of the Negro race in Turkey is due to the following causes : 1. The climate. 2. The condition to which they are reduced, and mode of life ; these are enervating, demoralising, and proper

to destroy the germs of reproduction. 3rd. That when negroes are in a position to marry, they are generally old and exhausted. If we put aside the testimony of statistic computations, evidence of the complete destruction of the negro stock which has been imported into Turkey during the last four hundred years, is not wanting. Admitting that during that period every generation of believers has had for its own use 100,000 negro slaves, nearly a million and a half of Africans has been pouring like an ever flowing stream into the midst of the Mussulman population. Where are now-a-days to be found the traces of this alien race? Do the negroes form any separate settlement or population, as those in the southern states of America? Or have they been amalgamated and absorbed? No, they have been consumed and devoured, and such would inevitably be the fate of many other millions besides these. Voluptuousness and egotism are monsters ever eager after victims.

On comparing the lot which awaits the negro slaves in the east with the relatively happier condition of their kinsmen in America, one is astonished in seeing that slavery has produced so totally different results. Two different passions have been the cause of the adoption of slavery; the idleness and profligacy of the Mussulman in the one case, and the money-making mania of the Anglo-American in the other. But this difference which exists in the causes of the adoption of slavery, has also brought about different results; and while the Turkish negro turned into a tool proper to support the luxurious life of his master is doomed to perish, the American negro being made an agent of cultivation and industry, prospers, and his progeny multiplies.

Under the pressure of a common bondage the negroes of Stamboul have been naturally led to find protection by some sort of aggregation; they have thus organised a brotherhood, which ought rather to be styled *sisterhood*. This brotherhood is not established on the system of centralisation, on the contrary, it consists of a number of lodges placed under the authority of so many chiefs. The chief of a lodge is called *Col-bashi* (chief of the band): the *Col-bashi* is elected by the members constituting the lodge.

The object of the lodges is to afford protection, aid and refuge to the slaves when in want, to rescue and redeem them from the hands of their proprietors when possible, to claim and defend the rights of free negroes either from their employers or before the tribunals, and lastly, in order to provide a place for general meetings. Every member of the lodge pays a monthly contribution, besides which no one omits bringing to the central depôt what can be stolen from the white man's house. The different lodges are united by a common alliance.

The *Col-bashi* is a female invested with high authority, her abode is the lodge, and she is constantly waited upon by several of her devoted followers. She disposes of the funds as she pleases; her followers consider it an object of pride to see her dressed most gaudily, having a profusion of pearls and pieces of gold on her head and round her neck. The respect of which the *Col-bashi* is the object is remark-

able ; no negro, whether male or female, will ever talk irreverently of her, and on being summoned before her presence every one of her followers will implicitly obey. A hundred situations would be given up, and many a master would be left without dinner rather than disobey the chief.

What renders the *Col-bashi* sacred in the eyes of the negro is the spiritual character which she is believed to possess. The *Col-bashi* is said to represent a powerful spirit known under the name of *Yavrube* ; she is also said to be intimately connected with all sorts of other spirits ; moreover, the breath of the *Col-bashi* and her power in reading something from the Koran are deemed to be as good panaceas as the prescriptions of the best of physicians. Once or twice a month the whole of the lodge assembles around the *Col-bashi*, there every one appears in his smartest costume, bearer of some offering or other. Seated on the ground the congregation sing African tunes kept up with the accompaniment of the Tarabooka and of the Teff, while clouds of incense and myrrh arise within the precinct of the room. All on a sudden the *Col-bashi* attains a stage of high excitement and frenzy, becomes an incarnation of the spirit *Yavrube*, and is thus transformed into the male element. A supper puts an end to the wild ceremony ; the meal consists of an African dish called *acideh*, and of abundantly distributed sherbets and sweets.

It must be known also that the negroes in Stamboul have got their minstrels, who of course, are not so stylish as those in St. James's Hall. The Stamboul minstrels are poor old men broken to pieces by infirmities, and their evening and morning suits are rags. The way in which these poor fellows gain their livelihood is by singing and playing on the guitar their national airs. It is interesting, and at the same time touching, to see how the negro maids on catching the first notes of their African tunes are electrified, and gather around the musician like so many flies on a sugar-lump.

Having described in a summary manner the condition of the negro slaves in Turkey and through the East, something must be said in conclusion with reference to Sir Samuel Baker's expedition, which is meant to put a stop to the trade in negro slaves. It strikes me, at first sight, that a gigantic undertaking of this nature could not have been commenced with a more ill-conceived plan and with means so totally inadequate as this one has been. After what has already been said in the course of this lecture with regard to the causes of supply and the causes of demand, everyone must admit that on so extended and difficult theatre of operations, it is lost labour to attempt to put a stop to the slave trade with the five or even ten thousand men which may be expected from the Khedive.

Notwithstanding Sir Samuel Baker's earnest efforts, the negro chief will not cease from packing off his slaves to Cairo or Stamboul, nor will the Turk and the Egyptian fear to rush on the prey. What must inevitably happen is this ; the commander of the expedition, placed between two fires, supply and demand, will have the mortification of seeing his plans defeated by both. And what if the very soldiers and officers who are to execute his orders, betray him by play-

ing into the hands of those in the rear and those in the front? The surprise would be rather agreeable, but everything ought to be foreseen when dealing with Orientals. Supposing, however, that Sir Samuel's zeal is fully shared by his subordinates, even then the chances of success are few; as not five thousand, nor yet two hundred thousand men, would be sufficient to keep up a vigilant cordon in face of enemies who are everywhere and nowhere. A faint check is the result to be expected; as for the sanguine hope of extirpating the evil, it is delusion to cherish it, as neither the Egyptians nor the Turks, neither the Khedive nor the Sultan, ever thought of doing away with the state of things which suits them so well. It is only by policy in order to gain the sympathy of European nations, and particularly that of Englishmen, that Sir Samuel Baker's humanitarian scheme is ostensibly encouraged; in reality however they undermine it.

If the Sultan and the Khedive really mean what they say and intend doing away with slavery, the thing is very easy: they will have no law or firman to write, no troops to dispatch, no Samuel Baker to employ. Let them merely open wide and large the gates of their harems, let them turn out the hundreds of women and eunuchs they shut up, the whole scaffolding of slavery will then crumble down. This is the only feasible plan through which the calculations of sellers and buyers of human flesh can be effectually thwarted. Mussulman society as well as its rulers shrink, however, from sweeping measures of the sort, but they must be aware that through craft it is not possible to avoid the penalty which Providence inflicts on slave-holding nations. There is no escape between the two alternatives; Turks and Egyptians must either make an atonement by emancipating their slaves, and follow thus the example given by Russia, or they must await to be crushed as the Confederates of America and the Circassians have been, and then only the rights of humanity will be avenged.

In the discussion which ensued, the following took part:—Mr. de Meschin, Mr. A. L. Lewis, Mr. C. Staniland Wake, Dr. Seemann, Sir Richard Hanson, Dr. R. King, Mr. J. F. V. Fitzgerald, Mr. Edward Wade, Mr. Charlesworth, Dr. Ioannides, and the Chairman.

The Meeting then adjourned.

FEBRUARY 15TH, 1870.

DR. BERTHOLD SEEMANN, V.P., IN THE CHAIR.

THE minutes of the previous meeting were confirmed.

C. W. Eddy, Esq., M.A., 24, Abingdon Street, S.W., and E. Shiemann, Esq., 47, Gerrard Street, Soho, were elected Fellows.

The following presents were announced, and thanks were voted for the same :

FOR THE LIBRARY.

From the AUTHOR.—*Antropologia dell' Etruria*. By Dr. G. Nicolucci.

From the ROYAL INSTITUTE OF PALERMO.—*Giornale di Scienze Naturali ed Economiche*, 1869.

From the SOCIETY.—*Journal of the Ethnological Society of London*, No. 4.

From the SOCIETY.—*Mémoires de la Société Royale des Antiquaires du Nord*, 1868.

From Professor STEENSTRUP.—*Oversigt over det Kongelige danske Videnskabernes Selskabs*, Copenhagen, No. 5, 1868 ; No. 2, 1869.

From the SOCIETY.—*Proceedings of the Royal Society*, No. 186.

From Dr. E. T. RYAN TENISON.—*The British Medical Journal*, to date.

From the AUTHORS.—*Life and Sport in South-eastern Africa*. By Chas. Hamilton, Esq., and F. G. H. Price, Esq.

A paper by Mr. E. A. Welch and Dr. Barnard Davis, F.R.S., was read as follows :

An Account of the Chatham Islands, their Discovery, Inhabitants, Conquest by the Maories, and the Fate of the Aborigines.

The Chatham Islands were discovered, about the year 1792, by Lieut. Broughton, one of the expedition under the celebrated Vancouver, and consist of the Great or Chatham Island (Whare-kauri), Pitt's Island (Rangiourea), South-east Island (Rangitira), and several outlying rocks, some of which are dignified with the name of islands, but there is neither timber nor bush growing on them. The islands are situated near the forty-fourth degree of south latitude, and about 176° west of Greenwich, or about four hundred and seventy miles east of New Zealand.

At the time of the discovery of the Chatham Islands, they were inhabited by a peaceful, harmless, and inoffensive people, who were then supposed to be identical with the natives of New Zealand, or Maories. Such is what I have been informed, as I have never seen any account of the discovery, and, of course, there is no early information concerning the natives to speak of, except what is gleaned from themselves and the earliest residents among them. These people—i.e., the aborigines of these islands—are called *Morioris*, a title, I believe, bestowed on them by the Maories. They appear, from the evidence of a white man named "Coffee", who lived amongst them some years before the conquest of the islands by the Maories, to have been a simple, harmless race of people, living in the most primitive style, without any fixed residence, and without huts or dwelling places, except of the most frail description—these consisting of two poles

stuck in the ground, and a cross-piece from one to the other, against which a few branches of trees were placed in a sloping position, with some flax-leaves to form a shelter. These were their only dwelling places, and were mostly at the outskirts of the bush, where the surrounding timber sufficed to break the wind, and shelter them a little from the rain. These huts were used for a day or two, as they wandered about from place to place, wherever food was most abundant.

Their only garments were flax-leaves plaited or woven into mats, and worn round the loins. They were idle in the extreme, only seeking food when pressed by hunger, and depending mostly on what was cast ashore by the sea—a stranded whale, grampus, or porpoise being an especial delicacy, as was also a seal or mass of whale blubber, which being often cast ashore was looked upon as the gift of a good spirit who supplied their wants. Having no land animals, they depended upon such means and the abundance of shell-fish for their subsistence: their food consisting almost entirely of the delicacies above enumerated, the mutton-fish, Pawa (*Haliotis*), the Pipi, a delicate white bivalve, much esteemed by Europeans, several of the Echinidæ, sea crayfish, eels, and other fish, and a peculiar fish, zoophyte, or marine animal, called "Kaio" by the aborigines, but named by Europeans sea tulip. Their vegetable food consisted of the root of *Pteris esculenta*, which was generally dried in the sun and roasted; the stems of the Mamaku tree-fern were eaten in the same way, and also the pith of the Punga punga tree-fern, and the heart-leaves of the *Areca sapida*. But the most peculiar part of their vegetable diet was the fruit of the Karaka tree called Kopi. This fruit, when ripe, has very much the appearance of a small apricot, and is similar in taste, but much stronger. After the fleshy pulp is removed, there remains a stone with a thin shell, containing a kernel. This forms the edible part, and the method of its preparation is as ingenious as the South American mode of preparing cassava from the root of the *Jatropha manihot*. It is first roasted in a kopra, or oven, which is simply a hole made in the ground, in which a fire is kindled. When the fire has burnt to a mass of red coals, a quantity of stones are thrown in and allowed to get hot. These are then covered with green leaves, and the kopi nuts are thrown in; a fresh quantity of leaves are then placed on the top of them, some water poured in, and the whole is then covered up with earth and allowed to remain some time. When the nuts are uncovered they are cooked, and are ready to undergo the next process, which consists in putting them into a suitable receptacle and placing them in a running stream, where they are allowed to remain for at least three weeks, at the end of which time they are considered fit to eat. They have then a striking resemblance in odour to the spent bark usually thrown out of a tanner's yard. If these nuts should be eaten raw, they are poisonous, and cause death; and even if eaten after the first part of their preparation serious illness is a certain result. I have seen one poor fellow at Matarako, on the east side of the island, who had lost the use of his limbs entirely from paralysis caused by eating kopi nuts after they had been cooked, but prior to their being steeped in running water.

Though the Morioris are destitute of any chronological knowledge, they have a tradition of their ancestors having come to the islands in two canoes, but are totally unable to fix even approximately the date of such arrival: they cannot surmise how many generations have lived and died since that time, nor have they any means of counting days or years, or of conveying any correct idea whether an event occurred twenty years or only a week ago. They say that one of these canoes was preserved for a long time, and the other was blown out to sea; but they do not know what their form was, and have no idea of boats or canoes except their own wretched crafts, composed of the flower stalks of *Phormium tenax* made basket-like, and tied together with strips of the leaf and young karreao, or supple-jack vines. These frail rafts were filled in the lower part with kelp, or bladder wrack, and other floating sea-weeds, which gave them sufficient buoyancy to enable them to be taken a little way out to sea and on the lakes to fish; and some of the fishermen would often sit in one of these frail barks up to his knees in rotten sea-weed, as they never took out the first lot put in, but continued to heap in fresh quantities in order to keep up the floating powers of this primitive ship. Probably the want of timber suitable for the purpose prevented their making canoes of a more substantial nature, as they possessed stone axes like the New Zealanders. The operation of felling a tree was, however, a considerable undertaking, involving, according to their accounts, a month's labour; and probably this prevented their making wood rafts, which would have been infinitely more safe, and as easily propelled with the same means as they propelled their flax rafts—namely, with a paddle of wood shaped like a spade, and used at the stern. There may possibly be some truth in their tradition as to the way in which their ancestors arrived at the Chatham Islands; for a tradition of a similar nature is told by the Maories of the way in which their ancestors arrived at New Zealand from Hawaiki. Still it has been supposed by some that the Morioris were the original inhabitants of New Zealand, and were driven from that country by their Maori conquerors.

The Morioris appear to have been a cheerful, good-tempered race of people, fond of singing and telling stories, and ardent believers in spirits, both good and evil. They believed that all food was given them by a good spirit named Atua, which is the Maori word for God, though they do not appear to have believed in the existence of a God in the sense that we do. Nevertheless, they evidently entertained a belief in a future state, as, when one of their number died, it was believed that his spirit would descend into the sea and send them some large fish ashore, and after a death they usually made fires on the sea-beach, and watched anxiously, day and night, for the expected gift. Even their conquest by the Maories, their assimilation to the habits and manners of the latter, and their intercourse with Europeans, have failed to shake this belief, as, in September 1867, one of the oldest of their people died at Waikarapi, four miles from the settlement of Waitangi, and was buried near his hut, and it was believed that when his spirit descended into the sea he would send them some large fish ashore. So strong was the impression, that fires were

lighted on the beach, and they watched day and night for four days, when a large grampus was cast ashore within half a mile of the old man's whare, and a general rejoicing followed to celebrate the event. Their belief in evil spirits was, I rather think, confined to the idea that, after the death of one of their number, an evil spirit came to carry away the soul of the deceased, and, in order to prevent such an occurrence, a fire was usually lighted, round which they ranged themselves, each holding a stick, tied to which was a bunch of spear-grass (*Gingidium Dieffenbachii*), meantime chanting a monotonous song. This was supposed to keep away all evil spirits, and was an invariable occurrence on the death of one of their tribe. This ceremony has died out from amongst them now, and when one dies they usually hold a tangi or wail for the dead, in the same way as the Maories.

Their language was, or is believed to have been, a dialect of the Maori language, or one so near to it as to have become easily assimilated to it, as at the present time there is no appreciable difference between them. But it is not at all improbable that theirs was a separate language, and that the slaughter of the greater portion of them, and the slavery to which the rest were condemned, may have obliterated their language entirely, and compelled them to use the Maori tongue, as being most intelligible to their masters. The Morioris do not appear to have had any hereditary chiefs or leaders. From what I have been able to learn from them, it appears that their usual method was to elect such as were considered the most useful. Thus any one who was distinguished for stature or prowess, or was a successful bird-catcher or fisher, was usually chosen as a leader, but did not possess more than ordinary power, being simply looked upon as a leader or judge. War was an art they did not understand, and, therefore, they did not require a chief to lead them in battle. Quarrels were very rare, and generally resulted from such an occurrence as appropriating a seal, porpoise, or mass of whale blubber, or such delicacies, that were the property of another. A fight generally ensued between the two parties, in which, it is said, they used wooden clubs and spears, or their stone axes, and whoever first drew blood was considered the victor, and the affair ended. This is a pleasing contrast with their conquerors, the Maoris, who seem to be never so happy as when engaged in a war. I have never seen any weapons amongst the Morioris; nor, indeed, have any of the oldest white settlers on the islands. Probably what weapons they possessed were taken from them at their conquest, and destroyed by the destroyers of the Morioris.

Their method of disposing of the dead was peculiar, and had special reference to the avocations of the deceased. Thus, a successful fisherman would be lashed to one of the frail rafts before alluded to, a baited line put into his hand, and the boat sent to sea with its curious freight. A bird-catcher would be lashed to some tree facing a spot where he had been more than usually successful, and left there, or placed upright in the hollow of a tree. Women, and those of no particular merit as sportsmen, were generally taken to some sandhill overlooking the sea, where a hole was made, into which the body was

put doubled up, so that the chin rested on the knees, and the head was always left above the surface of the ground—a style of burial that I have not heard of being practised by any other people.

They have been thought by many people to be a tribe of Maories; but, from what has been said, it will be seen that their manners and customs differ very materially from those of the Maories in nearly everything, and, apart from this, there is a great deal of physical difference between the two races. The Morioris are shorter, stouter, and more pleasing in expression than the Maoris; they are darker in colour, have the same lank black hair, have aquiline noses, and a Jewish cast of countenance, and do not tattoo themselves. The difference between them is so marked that one Moriori may be easily picked out from a hundred, or an indefinite number of Maories. The latter people know well the difference, and know them to be a different race, speaking of them with contempt as “black fellows”. It is said that they originally practised cannibalism, but had discontinued the practice before the arrival of the Maories.

The conquest, or rather the slaughter, of the Morioris took place about the year 1835. Some authorities have stated that the expedition to the Chatham Islands was undertaken for the purpose of a raid on these islands. The true state of the case stands thus. For some years previous to the year 1835, the Ngatimutunga tribe in Taranaki were continually harassed by a powerful chief of a neighbouring tribe, named Raupahara, and were decreasing very fast, being unable to withstand the continual assaults of this powerful chief. They had recourse to a system of emigration; and a number of the tribe, under the leadership of Pomare, their chief, chartered an English brig, the *Rodney*, to convey them to Whare-kauri, the Chatham Island, they having given it that name on hearing of it from one of their countrymen who had been there, and carried a good account of it to the natives of Taranaki. Accordingly they arrived there, and landed at Wangaroa, the *Rodney* immediately setting sail after landing her passengers. Here I may mention that the Maories, after landing, began to feel that there was a considerable difference between New Zealand and Whare-kauri, and that the latter lacked many of the advantages of the former. The absence of land animals, to which they had been accustomed, made animal food a delicacy. It is probable that this was the cause of the commencement of these cannibal orgies that so nearly depopulated the islands. Certain it is that once having begun, they carried their horrid practices to such an extent as almost to exterminate the original inhabitants. The usual way in which these feasts were conducted was to select a certain number of victims, who were made to carry the wood, light the fires, and dig the Koprass in which they were to be cooked, and make all ready for the feast. They were then laid in rows on the ground, and killed by a few blows on the head with a “mere” by one of the chief men present. At this day, the remains of these cannibal feasts are to be seen in every part of the island. At Tupuangi, on the western side of the island, there are hundreds of the skeletons of these unfortunate wretches lying near the sea side, where the feasts took place.

At Okawa, on the north-east side, there are also a great many, this likewise being one of the chief scenes of their cannibal festivities. And even in the most secluded spots you frequently come upon the bones of some unfortunate victim: the larger bones broken to extract the marrow, and the skull also broken to get at the brain.

The Morioris say that, prior to the coming of the Maories, their people were as numerous as the flax-stalks, and that, notwithstanding their great number, there was never any lack of the necessities of life, as there was scarcely a day but what some large fish or mass of whale-blubber was cast on the sea-beach, and furnished them with an unlimited supply of food; but that, after their conquest by the Maories, and the introduction by them of the potato and other vegetables, and land animals, as pigs, sheep, cattle, and other domestic animals, they have had to work for their food, and that the former supplies have gradually failed and become less every year. This method of enumerating their people is very similar to the American Indian saying, "numerous as the leaves of the forest", as indicating a number beyond their comprehension, and conveys no accurate idea of what their numbers were. However, there is no doubt that they were very numerous for the area of the islands. The number of skulls that are to be found in certain parts goes far to prove this fact; but, owing to the causes before mentioned, they have dwindled down to a very limited number, and at the present time do not exceed eighty or ninety altogether. Those who were saved from the general slaughter were held as slaves by their conquerors, and, being debarred the privilege of intermarrying, they have not increased since, and are becoming fewer every year, and in a few years may be expected to become totally extinct. During my residence on the islands, I was fortunate enough to procure a few skulls and an imperfect skeleton of the Moriori race, which I brought to England for anthropological purposes. These are now in the valuable collection of Dr. J. Barnard Davis, F.R.S., and are, I believe, the only authentic ones ever brought to this country.

From what I have been able to learn, the Morioris appear to have suffered from but few diseases; the commonest being a pulmonary affection called "mare-mare", and diarrhoea, "tiko-tiko". They were also troubled with a virulent form of scabies, called "haki-haki" or "turotiti", which is a really loathsome disease, aggravated very much by the determined scratching which they persisted in to allay the intolerable itching. During my residence amongst them, I was particularly successful in the treatment of this disease; and it was a common saying with them "*Taguta kipini te Atua*," which means "Doctor all the same as God."* Since the Maories and white men have been amongst them, they have, however, been subject to other diseases, some of which, particularly the measles, have been very fatal to them,

* The mode of treatment was by an ointment of sulphur, in the making of which a solution of corrosive sublimate was stirred before it cooled, telling them to wash frequently, and keep themselves clean. At the same time, a little Plummer's pill or antimonial powder was taken internally.

as also to the Maories.* With these few exceptions, I believe the Morioris to have been a fine healthy race of people.

They have been said by some people to bear a strong resemblance to the Stewart's Island Maories; but I think this is without foundation, as is also their fancied resemblance to the generality of the Kanakas.

There are many other interesting incidents connected with these islands; but they refer only to the Maories and white settlers, and not to the aborigines, and will not, therefore, prove of any great or special interest to you.

At the present time, the islands are inhabited by as varied and motley an assemblage of people as can well be imagined. There are Morioris, Maories, Kanakas, Negroes, Chinese, Spaniards, Portuguese, Danes, Germans, English, Irish, Scotch, Welsh, Yankees, natives of South America, a Manilla native, a Laplander, a Russian Finn, a half-caste native of New Holland, several Maori half-castes,† and a few whose nationality it is almost impossible to determine, forming as curious a mixture of races as could possibly be got together in such a small aggregate number.

Notes on the above, by J. BARNARD DAVIS, M.D., F.R.S.—It appears to have been on the 23rd of November, 1791, that Lieut. Broughton, the companion of Vancouver, discovered the Chatham Islands. His visit was attended with fatal consequences to the natives.

There may be some doubt whether at that time—or, at least, at the place at the north at which he touched, and which he named Scaramouch Bay—they might not have had canoes; for Broughton describes their vessels as frail barks, of eight or nine feet long, two or three wide, and two deep, with flat bottoms, and constructed of wood so light that two men could easily carry one of them on their shoulders. But it is more likely that Broughton really meant to describe the frail flax-rafts of Mr. Welch, which are irregular in form, sometimes almost square, at others rounded, and about two feet deep. The dimensions of those of the latter agree with Broughton's description, and they were remarkably buoyant, as Mr. Welch observes. He also adds: "There is no timber growing on the islands large enough to make boats of. There is a total absence of conifers, and the wood is generally of a dense, heavy character. The karaka, the largest, is said to be wholly useless for any such purpose." Broughton states that each canoe could only hold two or three persons.

The forest, on landing, was free from undergrowth, yet the trees were not large. The natives saluted in the New Zealand manner by rubbing noses, "hongi". They had stone weapons, like those of the Maoris, which they concealed by wrapping them up in a mat, and lances from six to ten feet long, two of which were carved on the

* I never saw a case of syphilis or gonorrhœa among the Morioris; but have treated both in Maories.

† The half-castes were European and Maori, with one exception, that being a Maori and Moriori. These half-castes are a fine, strong, healthy people, fertile when intermarried with one another and with both Europeans and Maories, and are on the increase.

shafts. Broughton speaks of the water on the island as being of a reddish colour and of a salt taste. Fourteen natives accompanied him along the shore, but his efforts to attain to a friendly intercourse with them were unavailing. At length, a young man advanced towards him with hideous grimaces, in a threatening and ferocious manner; but was arrested by Broughton's pointing his gun at the native's head. The native party then began the attack, when the Lieutenant fired a gun, loaded with shot, at them, with a view to deter them, and thus to enable the English to regain their boat. The blow of a heavy club knocked Mr. John Stone's musket out of his hands, which he recovered, and fired at the native who struck the blow. A marine and a sailor near were also compelled to fire, from the imminent danger to which they were exposed; next the officer in the boat fired, when the natives retreated. Lieut. Broughton was much pleased to see them run away; but had the mortification afterwards to find one man dead from a bullet wound through his heart, and to hear another lamenting, in a tone like howling, from the pain of his wounds.

The English saw no appearance of dwellings. Broughton describes the natives thus. The men were of middle stature, with their limbs full and robust. Their hair and beards were black, and some wore them long. The youths had their hair tied in knots on the top of the head, and intermixed with black and white feathers. Some among them had extirpated their beards. They all have a dark brown tint, with decided features and bad teeth. Their skins showed no signs of tattooing, and they seemed very clean. For clothing, they had the skin of a bear (?) or a seal attached round the neck by a netted cord, which fell down to the hips, with the hair outwards. Others had, in place of these skins, mats made very artistically, attached in the same manner, which covered their shoulders and backs. Some were naked, with the exception of a fine netted tissue, worn as a cord round the loins. We did not observe their ears to be pierced, nor that they wore ornaments on their persons, except some who had a necklace of mother-of-pearl. Many had their lines, which were made of the same substance as their nets, passed round the body like a belt, but we did not see their hooks. We distinguished two or three old men, who, nevertheless, did not seem to be clothed with any authority. All indicated much gaiety, and our conversation frequently excited bursts of laughter among them. It is difficult to give any idea of their surprise, and of their exclamations, when we landed. They pointed with their fingers to the sun and then to us, as if to inquire whether we had come down from it."

It will be seen that Broughton not only speaks of their stone weapons, but says they were like those of the Maories of New Zealand. Those stone implements that have been brought by Mr. Welch do not seem to be of the same pattern as those of the Maories. They are made of a very hard dark stone, which has a loud clinking resonance, yet is not so hard as the jade employed by the Maories. They appear to have been of the adze kind, and bear perfect cutting edges, which are remarkable for the obtuse angle at which they are

formed. They are now only to be found in the woods, and are very scarce, iron being of universal use at the present time.

The osseous relics of Morioris brought to England by Mr. Welch consist of three calvaria, two of men and one of a girl, two lower jaws, and most of the bones of a skeleton of a woman, except those of the head, viz., twenty-four vertebrae, pelvis complete, two scapulæ, two claviculæ, two humeri, two ulnæ, two radii, twenty-four ribs, two sterna, two femora, two tibiæ, two fibulæ, two patellæ, the bones of the carpus, metacarpus, and the phalanges of the fingers, some of them in duplicate, and the bones of the tarsus, metatarsus, and the phalanges of the toes, some of these also in duplicate.

No. 1598.—Calvarium of a man aged about 35. Has been exposed to the weather; is thick, small, and rugged, with a much depressed frontal; each limb of the lambdoidal suture is remarkably complicated in its denticulations. There is a round hole, which admits the tip of the little finger, through the anterior wall of the left superior maxillary into the antrum of that side. This orifice is quite regular, has its edges smooth, and no doubt existed in life. It is most likely the result of some serious injury. The teeth present a very unusual appearance of detrition. The third molars are absent, and seem to have been lost in early life; the two others are present on both sides, but are worn into the dentine. From the anterior edge of the first true molar on each side, the teeth before this point are worn down rapidly in a plane or curved line, which descends (really as the natural position of the head ascends) to the alveoli of the middle incisors, which are wanting. It is difficult to conceive how by any use all the anterior teeth could be worn away in such a manner—*i. e.*, sloping upwards from the first molars to a point on the surface of the alveoli of the middle incisors. The only similar cases that I am aware of are in the crania of "Giggeragou," an aged Maori chief (*Thesaurus Craniorum*, No. 156, p. 316), and another large Maori skull (*ib.*, No. 809), which possess the lower jaws, exhibiting the front teeth worn in a line which ascends upwards to the median point, so as to correspond with the wearing away of the upper teeth. It may be reasonably inferred that this peculiar mode of detrition of the teeth depends upon a special kind of food indigenous to both New Zealand and to the Chatham Islands—perhaps the roots and stems of the fronds of the tree-fern. It will be recollected that Broughton mentions the bad state of the teeth of the natives. Nasals are very prominent and aquiline in form.

No. 1608.—Calvarium of a man aged about 30. Is rather fuller and less rugged; still thick and bony, and has also been exposed to the weather. Exhibits a similar depression of the frontal. The sagittal suture is quite obliterated by ossification, and all the middle part of the lambdoidal nearly so. Nasals broken away. The molars and premolars are worn down into the dentine. Front teeth missing.

No. 1599.—Imperfect calvarium of a girl of about 10 years of age. This calvarium, which wants all the bones of the face, has a square opening on the left side, from the loss of a large piece of the lower posterior angle of the left parietal, no doubt the death-blow of the

child, and the absence of the sphenoid and ethmoid bones, which have been broken away to get at the brain for cannibal purposes. This calvarium was taken from one of the ovens in which the Maories cooked their victims on their invasion of the islands. It is very brachycephalic, and remarkable for the extreme width between the parietal tubers, which gives the norma verticalis a hexagonal form. The cephalic indices of these skulls are respectively—No. 1598, 74; No. 1608, 74; and No. 1599, 87. The internal capacities of the first two are expressed by 72 oz. and 76.5 oz. of sand. These are respectively equal to 87.5 and 93 cubic inches, which yield 44.2 oz. and 47.1 oz. for the weight of brain contained in each of the two skulls, the mean of which is 45.6 oz. This is very near to the average weight among male Maories, and among Oceanic races in general, of both sexes.

No. 1598A is a large heavy lower jaw, with the full complement of teeth. The wisdom teeth are not worn: hence it may be concluded that the man was not much more than 20. Still, the first molars are worn deep into the dentine, especially on the outer side; indeed, such is the case with all the teeth from the third molars forward, only not in such a great degree as the first true molars.

No. 1599A.—A smaller lower jaw of, perhaps, a woman of about the same age as No. 1598A, the teeth exhibiting exactly the same deterioration, in the same order.

No. 1610†.—Bones of an adult woman's skeleton. Some of the dimensions of these may be given; and, for comparison, I will add the lengths of the same bones in an Aïno woman (No. 1456†) and an Australian woman (No. 1261†), the former being distinguished by the letter A, the latter by B. The length of the humerus is 11.5 inches, and it presents the olecranal foramen (A, 11.3 in., B, 12 in.); of the ulna, 9.6 in. (A, 9.4 in., B, 9.6 in.); of the radius, 8.9 in. (A, 8.5 in., B, 8.9 in.); of the femur, 15.5 in. (A, 16.3 in., B, 16.3 in.); of the tibia, 12.5 in. (A, 12.7 in., B, 13.9 in.); of the fibula, 12 in. (A, 12.7 in., B, 13.1 in.). The latter measures show the unusual shortness of the lower extremities of the Moriori woman. All these long bones are not quite so robust, particularly the humerus, as the corresponding ones in the skeleton of the Aïno woman; and, likewise, they are all rather more robust, again particularly the humerus, than those of the Australian woman. The tibiæ present the sabre form in some degree, or are somewhat platymeric.

It should be noticed that these bones agree in all respects with the account given by Mr. Welch of the singular mode of burial adopted by the Morioris. The skulls have been bleached by exposure to the weather; so also have the bones entering into the formation of the knee-joints, including the patellæ. These parts have not been covered when the body has been bent up and placed in the grave. The other portions of the bones are of a deeper colour, from the sandy soil with which they have been covered.

According to the ratio deduced by Professor Humphry, from twenty-five European skeletons of men and women, that a femur of 17.88 in. infers a skeleton of 65 in., or 5 ft. 5 in. in height, the stature of

this woman would have been about 56·3 in., or 4 ft. 8·3 in. Both in the robustness of the bones and in stature, all this agrees closely with what has been said respecting the natives of Chatham Island. Broughton stated that the men were of middle stature, with their limbs plump. Mr. W. Travers says that "they are much shorter, but stouter built than the New Zealanders."* Mr. Welch's testimony is, that the Morioris are shorter and stouter than the Maories. We thus arrive at decided physical differences between the two races; and, according to the evidence of Mr. Welch, there are striking moral differences also. It is a similar case to that of the Australians and Tasmanians, two races which have been so frequently confounded by superficial and prepossessed observers. In confirmation of the opinion upon this latter subject expressed in the *Thesaurus Craniorum* (p. 271), that of an accurate and unexceptional observer may be quoted. Professor Huxley, in his address to the International Congress at Norwich, in 1868, said: "You do not find that kind of man (his "Australoid") in Van Diemen's Land, which is only one hundred and twenty miles off. It has been my fortune to visit that part of the world, and I can speak of my own knowledge that that type is not to be found there. . . . In Tasmania, the people are totally different from the Australians."

Mr. Welch affirms the hair of the Morioris to be black; in some cases curly, but in the majority straight and coarse. The colour of the skin is No. 42 or No. 43 of Broca's "Tableau Chromatique." That of the eyes No. 1 or No. 2, the albuginæ being yellow.

Thanks to the authors having been given,

Dr. CHARNOCK said Broughton, who discovered the Islands in 1791, estimated the inhabitants at 1,200. The N. Zealanders located there are said to number 800. Dieffenbach thought that in 1840 there were not more than 90 of the original inhabitants. Had the population dwindled down from 1200, or from 400? Hale (in 1846) states that his information concerning the islands was derived from a sailor at the Bay of Islands who had lived some time at the former. This sailor stated that the people had a tradition that their ancestors were from the N.E. Cape of N. Zealand, and that the date of their arrival was about 90 years previously. Such information could only have been acquired by an intimate knowledge of their language, and yet no vocabulary was found in Hale's work. The same was also wanting in the paper. Now, although there was a considerable resemblance between all the Polynesian dialects, there was not much in common between the geographical names in the Chatham Islands and those in any other part of Polynesia. There is *wai* for "water," which is found in all the Polynesian languages, and the name Pohanta, a harbour of the Isles, might be connected with the Sandwich word *puuhonua*, a "place of refuge." Most of the other names agreed with those in the northern island of N. Zealand and the Bay of Islands. Thus, in the Islands are Warekauri and Wangaroa, and other names commencing with *ware*, *wai*, *wanga*,

* *Transactions of the Ethnological Society*, vol. iv, p. 354. This paper is much defaced by misprints. Pitt's Island is everywhere named "Pell's" Island.

as Wangatchi, Wangamoe, etc. In N. Zealand are bays called Waingaroa, Wangura, Wangari; rivers named Wangari and Waikare, and a lake Waikari. The N. Z. *waikare* signified "clear water," *waikeri* a river. Waitanga is the name of a bay in the Isles, and Waitangi of a place in N. Zealand, signifying "noisy water," from *wai* and *tangi*; whence probably the *tanga* or wail for the dead mentioned by the author of the paper. One of the Islands (a mere rock), Ranga Tira, would, in the New Zealand language, translate the "gentleman," whilst Rangitulah, or "the sisters", would seem to be compounded of *tuavahine*, a sister.

Mr. RALPH TATE read a description of an inscribed rock on the banks of the Iguana, a tributary of the Orinoco, in Venezuela. This rock presented an incised marking which the author considered to be more ancient than the present inhabitants of the district.

A paper by JAMES CAMPBELL, Esq., M.D., was read "On Polygamy: its Influence in determining the Sex of our Race and its Effects on the Growth of Population." The author, who had been many years resident in Siam, gave minute details of the relative proportions of female to male births in the harems of the king and other important Siamese dignitaries. The result seemed to be that the proportions of males and females born were, as the case of Monogamist marriages, entirely equal. (The paper will appear at length in the *Memoirs*).

Dr. CHARNOCK thought the gist of the paper might have been founded on a mistake. He understood the author to say that there was a general impression that polygamy in the East gave rise to an excess in female births. This supposition might have arisen through a statement in one of the Cyclopædias—upon the authority of Montesquieu—that polygamy, in the East, was the *consequence* of the greater number of female births. The word "consequence" was frequently used in a very loose manner. The meaning here must be that polygamy was caused by the fact that in the East there were more females born than males; and this is what Montesquieu (who did not use the word "consequence") really stated. The truth of this could not be doubted, and on this account Bruce justified polygamy in the East. It was a known fact that in Japan there were born considerably more females than males; and Montesquieu states that in Bantam there were ten women to one man. This might be over-rated, but it was founded upon a statement made in a Collection of Voyages for the establishment of an East India Company. On the other hand, in the cold climates of Asia there were more males born than females, and polyandry was the consequence.

The following also took part in the discussion on the above papers, Dr. Richard King, Mr. Borwick, Dr. Carter Blake, Mr. Charlesworth, Mr. Lewis, and the Chairman.

MARCH 1st, 1870.

DR. BEIGEL, V.P., IN THE CHAIR.

THE minutes of the previous meeting were read and confirmed.

New Fellows were announced, viz. :—Robert Wright, Esq., Oak House, Arlington, Sussex; R. Harvey Hilliard, Esq., M.D., 258, Kingsland Road, N.E., and Kinsembo, West Africa.

The following presents were announced, and the thanks of the meeting were voted for the same :—

FOR THE LIBRARY.

From the SOCIETY.—Bulletins de la Société d'Anthropologie de Paris, 3rd fasc. Avril à Mai, 1869.

From the SOCIETY.—Transactions of the Social Science Association, 1869.

From the AUTHORS.—Matériaux pour l'Histoire primitive et naturelle de l'Homme, 2e Série. Nos. 1, 11, and 12.—MM. Trutat et Cartailhac.

FOR THE MUSEUM.

From Dr. KOPERNICKY.—Five photographic portraits of Scoptsis.

Mr. EDWARD CHARLESWORTH exhibited some remarkable flint implements from Honduras.

Dr. CHARNOCK wished to know whether Mr. Charlesworth had any evidence of the antiquity of these stone implements. They looked rather modern.

Major FREDERICK MILLINGEN read a paper as follows :—

"The Circassian Slaves and the Sultan's Harem."

THOUGH slavery was a custom universally practised amongst white races long before the Mussulman era, yet Mussulmanism through its conquests has greatly contributed to the spreading and maintenance of such a social evil. The main cause of this, as I have already exposed in a preceding paper, is unquestionably the fact of Mohammed establishing slavery as a reward for the valour of his warriors. On reading the accounts which history gives of the various Mohammedan conquerors, we see that the spreading of their power led either to the conditional subjugation or to the captivity of the conquered races. Many of the countries in the south of Europe have for centuries been exposed to the invasions of the Moors and of the Turks, and the reminiscences of the scourge inflicted by those hordes live up to this day in the traditions of the inhabitants.

When the Ottoman power began its career of conquest, the Turkish hordes fell like a torrent over the provinces of the eastern empire, carrying everything before them, while reducing into captivity the flower of the population. The conquered Byzantin-Greeks were the first to furnish a constant supply of slaves, and swelled the yet thin masses of the victors. At that primitive period the demand for slaves was chiefly for those capable of bearing arms, for the manly Turks were not yet greedy after women and odalisks, differing thus essentially from their present degenerate descendants. With the extension

of the Turkish conquests throughout Europe, Asia, and Africa, new fields were opened up for the supply of slaves, the invasion or subjugation of a new country yielding to the conquerors a fresh contingent of slaves who were merged into the mass of the followers of the Crescent. It was in this way that the wars carried on by the Turks in Hungary, Croatia, and in the hereditary states of Austria afforded them fine opportunities of recruiting their *ortas* (legions) and their harems with chosen specimens of the Hungarian, Solavonian, and German races. While these exploits were being achieved by land, the galleys and piratical vessels of the Turks spread terror all along the shores of the Mediterranean, destroying all traces of prosperity, and reducing the inhabitants into captivity. The Armenians, the Georgians, the Circassians, as well as the rest of the unbelieving nationalities of Asia, underwent a similar fate at the hands of their Mussulman aggressors.

The Turks having been driven back and a reaction set in, they sank into depravity, and slaves possessed no other value than that of vile agents of profligacy. By narrowing the Ottoman power, the limits also of the supply of slaves were naturally restricted, the conquests of Austria and Russia depriving the Turks of their European sources. Georgia and Circassia continued, however, to furnish them for a long period yet with a select stock of beauties and domestics, the former of the two countries having always been held in high repute on account of its products. *Gurgji guzeli*, the beauty of the Georgian, was highly thought of by connoisseurs; and the imperial harem, as well as those of the grantees throughout the empire, were chiefly provided with the fair ones of Georgia. The Valideh-Sultan, mother of the late Sultan, was a Georgian slave.

With the appearance of the Russian eagles on this side of the Caucasus, the supply of Georgian slaves diminished considerably; it continued, however, to be carried on through the agency of the Mussulmans of Georgian race, who inhabit the Turkish portion of Gooriel and the Adjara mountains. The Mussulman Beys of these districts are in the habit of making raids on the villages of Georgia and carrying away the inhabitants. In Gooriel, one of the most inveterate dealers in slaves was a woman, named Tintiné Khanam, mother of Hassan and Ali, two Beys of Tehuruksoo. The traffic was carried on by the sons kidnapping girls and boys and delivering them to the mother, who effected their sale by making frequent trips to Constantinople. There Tintineh was most highly connected, and intimate with the Seraglio, as well as with many of the grantees. Through her influence, she succeeded in getting one of her sons made a Pasha, as her son Ali was appointed in 1865 to the government of Keresund on the Black Sea. While the supply from Georgia was declining, the slave trade was carried on on a large scale by the Circassians. Among these mountaineers slavery is based on a totally different system from that existing amongst the blacks of Africa. Supply arises here from causes entirely different. Instead of having its source in feuds and wars, slavery in Circassia is, or rather was, produced by a peaceable process. There every chief or noble had a certain number

of domestic slaves, the offspring of whom served to supply the markets of Turkey. Slaves who happened to become involved tenants, were also packed off and sold at Constantinople. Besides these two kinds of slaves, another description existed, who may be styled volunteer slaves; that is to say, girls brought to the market and sold at their own request and desire. Many girls used to be brought also with the avowed object of giving them to suitors, settling them thus in married life; in this case the husband was required to give a moderate sum as a remuneration due to those who had taken the trouble of bringing the bride to Constantinople.

At the time when the slave trade was briskly carried on between the Circassian coast and the Turkish littoral, small skiffs used to leave on the sly the creeks and bays of Circassia, steering across to Trebizond; from this entrepot the slaves were sent to Constantinople, as well as to the branch establishments of Egypt, Tunis, Morocco, and Persia. That the Circassian girls should have had a sort of frenzy for slavery is easily explained when one considers that, in their eyes Stambul is the promised land where every one of them is to become a Sultana or the wife of a Pasha. While prospects so fascinating incite the slave to offer herself to the market, the profits offered as a reward to the slave dealer serve to give a greater impulse to the development of these transactions. Besides the high prices which he is sure to pocket on landing his merchandise, the expectation of obtaining one day the patronage and bounties of a future Sultana is also within the limits of this trade. The circumstance that in the Circassian slave trade the interest of the slave and slave dealer is combined, offers a striking contrast when compared with the relative position of the Negro slave and his dealer. In the one case the slave is moved by the hope of improving her condition; in the other, she is animated by the fear of having to undergo a life of hard labour. The eagerness with which the Circassian slaves accept serfdom, and the good luck met by some of them, has led to the belief that under such circumstances slavery is far from being a curse; it has even been looked upon as a boon and a blessing. I will demonstrate, however, that such arguments may have the merit of eccentricity, but not surely that of practical and sound reasoning.

With the subjugation of Circassia by the Russians in 1864, assurances were given to the effect that the days of the slave trade were gone by, and that a new state of things was to be inaugurated. It was asserted that henceforward slaves and slave dealers would be compelled to desist from their nefarious practices, and that a new era of civilisation was to follow the lawlessness hitherto prevailing. However, such vaticinations have not been fulfilled. Though the Russian arms have succeeded in driving slave and slave-dealers from their dens, they have failed in making better men of them. In other words, if the Circassians have lost the land of their fathers, they have nevertheless not relinquished their ancient habits of lawlessness and the taste for slave dealing. On the contrary, by immigrating to Turkey, the Circassians have found greater facilities for carrying on operations

of that nature, supply and demand being now within easy reach of each other.

It must be said that at the time when the emigration took place, the Turkish Government promulgated a decree by which slavery was abolished amongst the Circassians, all of whom were henceforward to be recognised as free-born citizens. In spite, however, of these formal orders, many of the high functionaries of the Porte despatched special emissaries to the landing places to select from amongst the emigrants the best specimens of female beauty. Such a golden opportunity for getting cheap slaves was not to be lost, and every one who could, provided himself with a good stock of human merchandise. Since then the trade has continued unabated, as the Circassians established in Rumelia and in the neighbourhood of Brussa are in the habit of forwarding their goods to the Stambul market.

The causes which foment the supply being stated, let us now turn to the causes of demand. If the causes of the demand for Negro slaves have been said to be based on the religious and social system of Islamism, so much more so are the causes which lead to the trade in white slaves. Not only is the use of the Circassian or white slaves a custom inherent in the religious and social system of Mussulman nations, but it constitutes also a state policy, a *raison d'état*, necessary for the maintenance of the reigning dynasty. Let us examine these points in a summary way. Starting from the point that the use of white slaves is inherent in the religious system, I must say that Circassian slaves are indispensable as useful agents in order to keep women in that state of inferiority to which the Koran condemns them. It is easy to understand that if a woman knew that religion and law compel her husband to stick by her she would assert her rights; but this is just what the Koran prevents by allowing the husband to get rid of his wife on the smallest pretence, and making it lawful for him to take into his harem as many substitutes as he may wish. The fear of a new comer serves admirably to keep women (I mean Turkish women) in a state of salutary subjection. It is for this reason, then, that the Circassians either as cheap wives or odalisks are so useful. A Mussulman who wishes to check-mate his wife, or who may desire to indulge in a plurality of wives, would often find difficulties in procuring them amongst his countrywomen. Here the Circassians are of use, as by paying a price for her, she becomes at the shortest notice his property. Besides this, even as wife the Circassian is preferred to the native; the despotic husband prefers to have a wife whom he can keep under complete subjection to his heart's content. The native woman has too many drawbacks about her—father, mother, brothers, etc., who may cause uneasiness to the husband.

As upper domestics in the harem, the Circassians are also indispensable for reasons already stated in my first paper, as that free-born women cannot show their hands and faces while serving the proprietor of the harem—their virtue would be compromised if face or hands were to be seen; the slave is in a quite different position, as, according to the Koran, she has no virtue of her own to protect, that being the lawful property of him who possesses her. As a part of the social

system, slavery is essential. The jealous Mussulman is above all careful that no one should in any way be connected with the inmates of the harem, let them be his wives or attendants. Besides this, Mussulmans think a great deal of buying girls in tender age, with the object of bringing them up and teaching them according to their own notions and fancies. Evidently no one can answer better these objects than a Circassian slave, who, having no one upon earth but her master, gets easily into the groove of his manners, habits, and tastes.

The demand for Circassian slaves arises also, as I have stated, from a state policy which has for object the maintenance of the reigning dynasty. According to the constitution of the Ottoman empire, the Sultan, who is the chief of the State and Vicar of Mohammed, cannot ally himself with any one of his subjects nor with any foreign nation. From where is he then to procure the wives and concubines necessary to fill his harem? With slaves belonging to himself only is he allowed to contract a sort of connection. This rule is also extended to all the princes of the blood, as they are reckoned to be eligible to the throne. The history of the Ottoman empire records only one instance in which a Sultan deviated from this law, and that was when Sultan Orkhan married Theodora, the daughter of Cantacuzène, Emperor of Byzantium. But then the Turkish dynasty was not yet established on a regular footing, and the Sultans had not assumed the title of Vicars of the Prophet. This state reason makes thus of slavery a necessity; and unless a new system is adopted, the imperial customers will always be foremost in the market for Circassian slaves.

Having exposed the causes of supply and demand, I will now describe the way in which this slave business is carried on in Constantinople, where two sets of slave dealers exist—addicted to the trade in Circassian slaves—the professional and the amateur slave dealer. The professionals are generally people of Circassian origin, who, previous to the emigration, used to remain in the quarter of Tophaneh, at that time the general emporium for slaves. Since then, these professional dealers have been scattered all about Stambul, far from the sight of European intruders.

As soon as a fresh arrival of girls takes place at the residence of one of these slave dealers, a number of brokers, generally women, are despatched to the houses of the amateur slave-dealers, who are none else than the grand ladies of the imperial palace and the high aristocracy of Constantinople—the wives of Ali Pasha, Fouad Pasha, Hussein Pasha, and of all the big and small pashas of the empire. These amateur dealers, on receiving the intelligence from the brokers, have either the slaves brought to them or drive in their carriages to the house of the professional slave dealer, and there, after examination, conclude the bargain. The grand lady who has bought the Circassian girl on speculation, takes the slave to her palace, where she is kept three or four years, so as to render her familiar with the Turkish idiom, and teach her the duties of the household; some ladies go even so far as to make the slave girl practise a little on the piano, an acquirement which serves to increase a good deal the price of the merchandise. In order to attract customers, these slave-dealing ladies employ many

dodges ; one amongst them is that of driving through the streets of Stambul with their lovely slaves seated before them in the carriage ; of course nothing is neglected which can contribute to show the girls to advantage, neither the most fashionable costumes nor the most transparent veils. On driving home, the lady expects to find several customers in attendance waiting to learn the price of her slaves.

This trade is thus carried on by the greatest ladies of Constantinople, many of whom have become rich through it. No speculation could be more profitable than this one. A girl of ten or twelve, bought for two hundred pounds, can be sold at the age of sixteen or seventeen for a thousand. To leave no doubt about the correctness of my statement, I insert here a table of the Circassian slaves sold by a lady of Constantinople, Atidjeh Khanum Effendi, mother of the well-known Riza Bey, formerly Ambassador of the sublime Porte at the Court of Russia, and now Ambassador at Teheran. This list contains the names of the different slaves, as well as of those who bought them, the sums paid, together with the date in which those transactions took place.

NAMES.	SUMS.	DATE.
Djemalifer, sold to Ilamih Pasha	1000	1859
Ainifer, sold to an Egyptian Bey	750	1859
Andelib, sold to Rifaat Pasha	650	1862
Frenkistun, sold to a Bey	770	1862
Dilber, sold	190	1866
Aftab, to Mahmud Pasha of Tunis	600	1866

It is well known that Behieh Khanun, the wife of the late Premier Fuad Pasha, has carried on the slave trade on a much larger scale. Though I am not in a position to give particulars about it, I can, however, corroborate this statement by the following anecdote, which is of common notoriety among the harem society of Stambul. This lady, desirous of insuring an easy and liberal sale of her slaves, had recourse to a sorcerer, a khodja, said to possess supernatural powers. The sorcerer yielded to the demand of the illustrious client, and gave her a talismanic shirt, the power of which would invariably compel the customer to be smitten with the charms of the slave who was to wear it. The result seems to have fully justified the high reputation enjoyed by the sorcerer, as, according to Behieh's avowal, every girl who has put this shirt on captivated, at first sight, her customer.

The professional dealers, as well as the amateur ones, do not limit these operations in the slave article to Constantinople and the provinces ; their transactions extend as far as Egypt and Tunis. To find a customer from one of those countries is considered by them a bit of good fortune. The imperial palace is also highly thought of in a business point of view, a constant supply being necessary to recruit the ranks of the harem. A girl once bought for the imperial harem, or in order to be attached to the court of the Sultanas, can never be sold again, as it is considered below the dignity of the throne that one who has served the princes of the blood should serve common mortals. As for male slaves, they are not very much in demand now-a-days ; the

only case in which Circassian boys are required is when some imperial prince or the son of a pasha requires a playmate.

In the generality of cases the lot awaiting the Circassian slaves is not as happy as might perhaps be expected. And yet how could it be otherwise, when seclusion, jealousy, and profligacy render domestic happiness an impossibility? Besides this, the Circassian woman, whether wife or concubine, is always awkwardly situated in the midst of Turkish society. Exposed as she is to the hostile feelings of the native women, she cannot well rely on the capricious and fickle disposition of her husband or master. As for the concubines, they are the natural antagonists of the wives; the war waged between them frequently is attended with serious results; many of them, worn out and emaciated, die of consumption, and cases of violent death put an end to the life of others.

I know a case of this nature; the victim was a girl named *Yildiz*, who, after having been brutally beaten, was imprisoned in a subterranean room, condemned never to see the light again. The husband tried to rescue the unfortunate creature, but nothing could appease the fury of the jealous wife.

The happiest of all are the girls who have the good luck to be admitted to the imperial *Seraglios*. In those establishments the drawback is that of being obliged to submit to a more rigorous system of seclusion; but the abundance of everything and plenty of fun and amusement are, to a certain extent, a compensation for the want of that relative freedom which "women in town" can obtain. The careers which present themselves to the Circassian slaves on entering the palace are the following: the most lucky amongst them become either wives or concubines to the Sultan or to some member of the Imperial family; those less fortunate may grow up old maids inside the Seraglio, and attain there high positions and wealth; the career which befalls, however, the greatest number of these Circassian girls is that of leaving the Seraglio after a few years and getting married to some officer in the army or civil service. Though the girls coming out of the Seraglio are considered to be desperate flirts and fast in their manners, they are sure to find people eager enough to obtain protection who will not hesitate to marry them.

A curious thing in this respect are the marriages which take place between these Seraglio girls and the eunuchs. It is possible to understand that girls might carry on a flirtation with these harmless individuals, as long as they are not able to procure for themselves better representatives of the male type, but it is beyond the power of comprehension to imagine what can induce a lovely Circassian to shut herself up with a black eunuch. What is still more singular, is the fact that young, healthy and splendid girls should have actually accepted as husbands fellows of so little material importance, whilst suitors possessing all their physical attributes were eagerly seeking for their hands!

Notwithstanding all I have said with regard to the happiness of the Circassian slaves who live in the Seraglio, the sufferings which inevitably attend slavery must make many a victim. An old Circassian

peasant presented himself one day at the gate of the palace, where there was residing the second wife of Abdul-Medjid, the late Sultan. The old man announced himself as being the father of the Sultana, and requested to be allowed to see his daughter only once before he died. "Let me not gaze upon the face of him who did not hesitate to sell me as a slave," was the answer of the daughter. Does not this show that in the Seraglio life thorns are more plentiful than roses? It is useless to seek for happiness in the midst of jealousies, intrigues, and depravity.

What I have said about the lot of the Circassian girls in the Seraglio compels me to give here a summary sketch of its organisation. On touching a subject so attractive I must warn my hearers not to expect too much; I have never been admitted into the Sultan's harem, and can only give an account of what I have been able to learn about it through my intercourse with several of the ladies of the harem and with their eunuchs.

The Sultan's harem, which is improperly called by Europeans "Seraglio," is a vast building shut up in the midst of lofty walls, and to which the Sultans give the pompous name of "The Abode of Felicity" (*Dari-seda*). Where human beings congregate, an organisation of some sort has always been found to be necessary; so the many women gathered under the Sultan's roof could not live together without being placed under a system and hierarchical order. Starting from this point, it will be easy to form an idea of what is the Seraglio and its organisation.

At the top of the female hierarchy of the harem stands conspicuously and all powerful the *Valideh-Sultan*, the mother of the reigning Sultan. That the mother of the Sultan, and not one of his wives, should be what we would style the Queen, is but consistent with the state of Turkish society. A Turk, who can have many wives, can have but one mother. After the *Valideh* the most important personage is the *Haznehdar-ustah*, the mistress of the treasury. This woman is the intermediate agent between the Sultan and the ladies of the harem; her influence is very great, and at the death of the mother of the Sultan she becomes her successor in the leadership of the harem. The different *Kadins*, or wives of the Sultan, come next, every one of them according to the right of seniority. Then come the *Ikbals* (favourites), having at their head the first favourite or concubine.

Now, the *Valideh-Sultan*, the *Haznehdar-ustah*, let us say four *Kadins* (wives), plus half-a-dozen concubines, in the whole twelve persons are the heads of twelve *daires* (courts) formed of their numerous attendants. These courts are formed of ten or fifteen women, some of them young, some of them more or less advanced in life, having separate and distinct duties to fulfil, as, for instance, that of treasurer, reader of the koran, secretary, giver of coffee, holder of the jug, and so on. An easy process of multiplication of these ten dignitaries by twelve will give us one hundred and twenty as the total representing the mass of this distinguished female body. But this is not all. These hundred and twenty ladies must be multiplied again by five, as five or six pupils, young slaves, are put under the direction and tutorship of each of the

ladies ; in this way, the first secretary has five under-secretaries or mates to help her in the fulfilment of her duties ; as many also as five assist the first giver of coffee when pouring the coffee in the cup of the Sultan's mother. The same system goes all the way through the different employments and degrees in the hierarchy, the total number of the women constituting these courts being close upon six hundred.

Besides these different functionaries and their mates, the Sultan's harem possesses a staff of white and negro cooks, a troupe of dancers and pantomimists, and a musical band composed of girls. All these courts and troupes form an integral part of the imperial household, and they are submitted to a sort of discipline something in the style of what is in vigour within the precincts of a convent.

Independently of these establishments, the heir to the crown, and every one of all the other sons and unmarried daughters of the late Sultan and of the present one has a little harem or court of his own, organised on the same principle, and sheltered under the same roof. As for the wives, concubines, sisters, and married daughters of the late Sultan, or of his father, they are to be deducted from this computation, for the reason that all of them keep up their establishments in separate palaces and buildings granted to them by the crown.

On studying the system on which is based the Sultan's harem, one cannot help seeing that this huge machine is a world by itself ; striving to live of its own life at the expense of the enormous sacrifices it imposes on society at large. Slavery is the only soil on which it can vegetate and prosper ; it is from slavery that it recruits itself ; without slavery it would inevitably perish. The Sultan is the pivot of the whole system of the Seraglio, as the sole object and purpose of its inmates is to live of his life and to be benefited by his radiancy. The same law is applicable to the other Princes and Sultanas who are also as many planets of their respective systems. The alliance or compact between royalty and slavery is so complete that one supports the other ; this explains why the Sultan leans so much to slavery, and why slavery should cling so fast to him.

The Sultan's harem has been called, and justly so, a world by itself. It has its own slave dealers, its own customers, its own tyrants, its own victims, it has everything, production excepted, and only on that account it has recourse to the outer market for a supply of slaves. The transactions are, however, limited within the walls of the Seraglio, where the inmates are actively busy in selling each other. If the ladies in town are bartering pretty slaves in the public market, so the Sultanas and the other grand ladies of the harem reserve to themselves the monopoly of that trade, with the object of captivating the Sultan or any of the Princes of the blood. A fascinating Circassian given in present, or sold to the Sultan, at the proper time, has often been found a first-rate expedient to checkmate a rival or bring a court intrigue to maturity.

The mechanism of the harem system explained, I will now show in what way it works. To understand this, the best method is, I think, that

of following the career of a Circassian girl, from the time she sets her foot in the harem to that in which she reaches the top of the ladder, by becoming either the mistress of the treasury or one of the Sultan's wives.

Let us suppose that the Sultan's mother, or one of his wives, requires a slave to recruit the number of her attendants. Several girls are immediately procured, and amongst them the Sultana makes her choice. The girl thus selected is intrusted to the care of one of those functionaries who form the court of the Sultana; let her be the giver of coffee or the first holder of the jug. Under the tutorship and guidance of this person the newly-bought slave goes through her apprenticeship. The tutoress takes towards the girl the place of a mother, and provides her with dresses, money, jewels, and, in short, with everything necessary for her to have. The affection which naturally arises between them often lasts throughout life; and a tutoress will seldom abandon her pupil in trouble and need, even if they exchange their condition for that of married life. It is only with the consent of the Sultana, their mistress, that either the pupil or the *calfa*, tutoress, or any other slave belonging to the court, can be given away; if the pupil gets married it is her tutoress who intercedes on her behalf and obtains from the Sultan's treasury and wardrobe the necessary funds and a suitable trousseau. At the death of any of these slaves her property goes back to the Sultana, who is her legal heir.

In case, however, the Circassian girl does not get married, but follows her career at court, her rise takes place in this way. For instance, if in the secretary department, she gets to be by successive steps third, second, and first secretary, then, if a fair opportunity presents itself, she may rise to the high position of mistress of the treasury; the greatest part, however, prefer stopping at the head of their respective offices as first giver of coffee, or first etc.; and when old they follow the court to which they are attached to its last retreat within the old Seraglio.

If, however, the girl whose career we are following is lucky enough to rise to the position of a concubine or of a wife, the ascendant march is effected in this way. The Sultan happens to be paying a visit at her mother's; there his eyes fall, let us suppose, on the girl in question; some significant looks of his, or some comments about her, being at once interpreted as unequivocal signs of imperial favour, the girl rises at once to the high position of *guzdeh*, a compound substantive which means "in the eye," as the Sultan is known to have her in his eye. *Ipsa facto* the girl abandons her former duties, is separated from her companions, and gets for herself an apartment in the harem. After that, she is sure to receive messages and summons to appear before her imperial lover, and climbs a degree higher by becoming an *Ikkal*, which means one of the fortunate ones. Our Circassian girl then sees herself surrounded by a court, obtains a high salary, and finds that carriages and servants are placed at her disposal. Once a concubine, the leap to become a wife is not always sure; in many cases the girls decline the honour, preferring to be married in town according to

their own choice ; in others, the people at court prevent it by having recourse to unnatural expedients. To get one of these *Ikbals* is considered a high honour by many pashas, as a wife like that is an insurance against want of employment. If the *Ikbal* is to become a wife, the thing is easily done ; she changes her apartments, has a court arranged for her on the same footing as the courts of the other wives, and there the story ends. The Sultan, as chief Imam and Vicar of Mohammed, dispenses himself from marriage ceremonies of any kind, either religious or civil. The present Sultan, Abdul-Aziz, was said to have only one wife. This report, which was circulated about Europe at the epoch of his tour, is totally untrue. Abdul-Aziz has three wives ; the first he had before he mounted the throne, the second one became his wife in commemoration of his ascension to the throne, while the third was forced upon him by his sister Adileh Sultana, as a token of reconciliation between brother and sister. The names of the three wives are—Eda-dil, Hairani-dil, and Durnev.

Many of the principal pashas in Constantinople are supposed also to have but one wife. This is literally true, but not in fact. The real thing is that their own wives are often unaware of the existence of numerous rivals carefully concealed below the surface. With the death of a pasha the mysteries are, however, revealed, as a number of odalisks with their babies sprout from the ground like so many mushrooms. This sad surprise has the effect, however, of soothing the grief of the wife, who soon consoles herself for the loss she has sustained by launching against the deceased a volley of imprecations.

The system on which slavery rests, and the evils which follow from it, having been described as fully as the limits of a lecture allow me to do, something must be added in conclusion with respect to the results to be expected from the suppression of slavery. It is evident that the suppression of slavery would have as a consequence the emancipation of women. The emancipation of women would bring about, however, the re-establishment in principle of the balance which in a normal state of things ought to exist between the halves constituting the social unity ; but the destruction of the undue ascendancy exerted by the male element would inevitably bring about in the east the subversion of the social and political edifice established on the basis of religion and tradition.

If official denials could do away with an evil, we ought to take for granted that slavery disappeared long ago from the Turkish dominions ; official denials cannot, unfortunately, do away with a state of things the existence of which is socially and politically a necessity. As slavery has been a powerful agent in the erection and extension of the Ottoman dominion, so it must also be an agent of destruction ; besides, slavery being intermixed to such an extent in the structure of Turkish society and state, at this advanced period of its existence a change of this nature cannot be effected without the walls crumbling down. If, however, regardless for such considerations, the Porte were determined to emancipate slaves, and to clear out the harems, letting Mohammed and his book say what they like, such a generous and noble way of acting would only hasten Turkey's last breath. The fences and

ditches which separate and protect the followers of Mohammed from contact with Christians once removed, no further resistance could be afforded, and the moral and material aggression of Christianity would soon submerge all traces of Mussulman existence.

The destructive effects which slavery has brought on the destinies of Turkey bring to the mind some useful reflections and some practical suggestions. The different streams of slavery which have constantly been swelling the masses of the Mussulman population of Turkey must be looked upon as a sort of immigration movement based on economical principles of a subverted nature. As long as the contingents of this immigration were employed by the Turks to warlike purposes, the immigrants turned out to be a paying concern; because by adding their number to the aggressive power of their newly adopted country, they had their share in augmenting the national booty and wealth. But that period once over, when these emigrants turned out to be only women and degrading agents of profligacy, then slaves and masters became one mass of corruption, unfit for war, and unfit likewise for the exercise of productive occupations. It is thus that the most fertile portion of the earth's surface has become a desert under their feet.

If the Turks of yore or those of to-day were wise, instead of buying slaves who must in the end ruin them, they would have solicited and begged in order to let into their country a stream of emigration from England or from any of the western countries of Europe. Instead of having slave dealers, they ought to have employed agents, and formed immigration societies, saying to the honest farmer and to the industrious mechanic: "Why are you undergoing privations and hardships in your own over-stocked country, where you can scarcely breathe for fear of trespassing on the rights of your neighbour? Come! come to our country; I have got here more fields than I require, more mountains and minerals than I can count; I will give you land, and you will give me labour, and the blessings of our covenant will fall on our posterity." If Turkey had acted thus, she would not be what she is—a doomed country.

Dr. CHARNOCK wished to ask the author of the paper—1. Whether the Turks had not ceased to import slaves from Circassia, and whether they were not now derived from Georgia only. 2. Whether the present Sultan possessed any harem. He thought it a pity that so well-organised an institution should be done away with. 3. Whether the Turkish law called *Kâbin*, by which a man could take unto himself a wife for a specified time, was still in vogue, and whether the author of the paper did not consider it an excellent institution.

Dr. CARTER BLAKE, referring to the marriage of eunuchs, said that there was clear evidence, both in Martial and other Roman poets, that three distinct modes of castration prevailed—one a simple laceration, one a partial removal, and the third, *podice secti usque ad umbilicum*, an entire obliteration of the parts affected.

The following gentlemen also took part in the discussion on the above papers:—Mr. A. L. Lewis, M. Robert Des Ruffières, Mr. Vincent, Dr. Seemann, Mr. Avery, Mr. Charlesworth, Dr. Richard King, Dr. Ioannides, Dr. Skues, Mr. Robins, and the Chairman.

The meeting then adjourned.

MARCH 15TH, 1870.

DR. R. S. CHABNOCK, V.P., IN THE CHAIR.

The minutes were read and confirmed.

The following elections were announced :—*Fellows*—Wm. Stephens Hayward, Esq., Long Wittingham, Abingdon, Berks ; P. Henderson, Esq., M.A., Vice-Consul at Benghazi, N. Africa, 1, Stafford Place, Buckingham Gate. *Local Secretary*—Dr. David Earl Burdett, Belleville, Ontario, Canada.

The list of presents was read, and thanks were voted to the donors :

FOR THE LIBRARY.

From the SOCIETY.—Proceedings of the American Antiquarian Society, No. 53.

From the SOCIETY.—Journal of the Royal Asiatic Society of Great Britain and Ireland, vol. iv, p. 12.

From the AUTHOR.—Ancient Battlefields in the southern portion of Northumberland, by Rev. Scott F. Surtees.

From the EDITOR.—The Food Journal, No. 2.

From the EDITOR.—Nature (to date).

From the SOCIETY.—Proceedings of the Society of Antiquaries of Scotland, vol. viii, part i.

From the SOCIETY.—Journal of the Asiatic Society of Bengal, Part II, No. 4.

From M. E. LARTET.—*Reliquiæ Aquitanicæ*, Part XI, by M. E. Lartet and H. Christy.

From Dr. E. S. RYAN TENISON.—The British Medical Journal, to date.

From the AUTHOR.—Comparative Longevity, by E. R. Lankester, Esq.

The following paper was read :—

On the Strange Peculiarities observed by a Religious Sect of Moscovites, called Scoptsis. By Dr. ISIDORE KOPERNICKY, Cor. Mem. A.S.L., and J. BARNARD DAVIS, M.D., F.R.S., V.P.A.S.L.

It was an opinion of the late Dr. Robert Knox that race had a determinate influence in religion. He said the Celtic race all over the world is, properly speaking, Catholic, when not Roman. The dominion of Catholicism among the Irish and French confirms this ; whilst in Wales and Cornwall, where religious enthusiasm is very prevalent, it is not episcopalianism which satisfies the desires of the population.

In a paper read by the Treasurer of this Society, the Rev. Dunbar Heath, in December 1866, something like the same idea appears to have been advocated ; but, unfortunately, the terms Aryan and Semite were introduced into it, or formed its substratum ; the former, especially, being a designation to which it is difficult to attach any definite and precise sense. It is used in connection with an hypothesis based upon philology, that, at a very remote epoch, a people who spoke a language cognate with Sanscrit invaded Europe from the east, and settled down in all parts of it, where their descendants still remain. The Rev. Dunbar Heath maintained in his memoir that Christianity, as a whole, is derived from this Aryan race, and not from a Semitic

race. It would be a very comforting doctrine if we could conclude that our religion had been derived from a race of people less superstitious, and endowed with higher powers of mind than the Hebrews. But there is probably no reason to doubt that Christianity had its foundations laid in Judea some 1900 years ago, among a Jewish people; that it did not come into Europe at any very remote antiquity, when the Aryans are imagined to have made their appearance; and as little reason is there to doubt that the wisdom of the *west* was conveyed to the east, many ages before the advent of Jesus Christ, as that Alexander had made his conquest in oriental countries and established the Bactrian kingdom. Mr. Heath's very learned arguments are of quite a different nature from those to which your attention will be invited this evening. They concern Christianity as a whole, and what it is now proposed to describe is a small sect of a particular, but well-defined race.

The name of this sect, which exists in Russia, is Scoptsis (mutilated), and in that country, and in some parts of Wallachia, where also its disciples are to be found, it is a secret sect. The reason of this will be apparent when it is known that the Scoptsis are distinguished for self-mutilation. These fanatical people base their peculiar notions upon the sixth chapter of the Gospel of St. Matthew, and interpret the 12th verse as an injunction to this unnatural practice.

But it is time that it should be made known to you, that the information here given concerning this strange sect, the photographs of its professors, and the anatomical preparation which exhibits the radical excision of the sexual organs of a male Scoptsi, are wholly derived from my friend Dr. I. Kopernicky, a corresponding member of this Society, an able and zealous anthropologist.

The Scoptsis form a sect of the Moscovites, or Great Russians in particular. This is the important anthropological fact revealed by the sect. The Moscovites, or Great Russians, are about 30,000,000 in number, and extend from the White Sea in the north to Koursk and Saratov in the south; from St. Petersburg in the west, to Viatka and Novgorod in the east; in truth, over a very large portion of European Russia. De Pauly calls them the *proper* Russians, and in this differs materially from Dr. Kopernicky, who designates the Ruthenians and White Russians the *true* Russians.

In order to introduce Dr. Kopernicky's description, I will give a translation of what M. de Pauly says of the Scoptsis. It should be premised that the "Raskol" is the name by which the whole body of dissidents from the Greek Church, or, to speak more correctly, the Russian Church, which is the sister of the Greek Church, but still an independent sister, and differing mainly by some external ceremonies, are called. The Raskol, therefore, has a similar meaning to our word Dissenters. The Raskol is of considerable antiquity, and these are divisions of it. The first and principal division is named Bespopovchtchina. "It is in the Bespopovchtchina that is met with the remarkable sect of Scoptsy, who voluntarily mutilate themselves by cutting off their sexual organs. The Scoptsy, in justification of their system of mutilation, build upon certain passages of the New Testa-

ment, which, wrongly understood and falsely interpreted, may, in fact, serve as a pretext for this deplorable error. They believe that paradise will be manifested on earth when the whole human race shall be found in this state of mutilation ; that their apostle, under the name of Selivanov, continually wanders beyond Lake Baikal, in order one day to assemble together all the partisans of the sect, to reign upon earth, and to spread over it peace and eternal happiness. Pursued by Government as attached to an immoral sect, they seek to obtain by the influence of considerable riches of which they dispose—for in the great cities many jewellers, goldsmiths, and dealers in gold make part of this sect—a certain toleration which never extends to the new converts, who are rigorously persecuted. Although less numerous than the other sects, none is more greedy of proselytes than this, and the painful operation which formed the principal object of the doctrine is accomplished among them with remarkable expertness. At times the mutilation of the father-head of a family takes place only after the birth of a son, and this delay evidently has for its object the preservation of the property in the same family. But it often also happens that strangers fulfil the conjugal duties without the manifestation of any irritation on the part of the husband towards the wife. The belief and the divine worship of the Skoptsy breathe an ardent and exalted sentiment of hope and of resignation.* De Pauly adds, that at the present day the Government has ceased to exercise against sectaries those repressions which strengthened their obstinacy and augmented their numbers. This is quite inconsistent with what Dr. Kopernicky relates.

The name *Moscovites* is the true and proper appellation of the Great Russians. Their neighbours, the Poles, Lithuanians, and the true Russians, or Ruthenians, i.e. the White Russians and Little Russians, or Ukrainians, never call them otherwise. The Great Russians as a nation and as a state (*Tsarat*) were not known till the eighteenth century, save under the name of *Moscovites*. It was Peter the Great and Catharine II, who, finding that this name was objectionable and of bad odour among the European family, usurped the designation of Russians and imposed it on the nation by the force of *Ukases*. This history is truly curious, not only in a political point of view, but also in an ethnological one.

The Skoptsi is a tolerably numerous religious sect. Its peculiarities are based on the literal interpretation of the words of the Evangelist : " *Expedi tibi ut pereat unum membrorum tuorum, quam totum corpus tuum eat in gehennam.*" It is better that one of thy members should perish than that thy whole body should go to hell. These miserable eunuchs, who are distinguished for much ardour in their proselytism, are severely pursued. Those among them who, especially in the reign of Nicholas I, had not succeeded in purchasing at great cost the right to practise in secret within their own country their abominable worship, were forced to emigrate into neighbouring provinces. But it was only in Wallachia and Moldavia that they were allowed to settle. They are very numerous at Jassy, at Galatz, and at Bucharest. In these cities they are nearly all coach-drivers and

* De Pauly, *Peuple de la Russie*, p. 44.

proprietors of voitures de place, or hackney carriages, and it is only at the price of fifty to one hundred ducats, with a carriage and a pair of horses, that they ordinarily gain their proselytes. They are in general very greedy, avaricious, but peaceful and sober. They dwell in communities, and inhabit distinct quarters of the towns in which they live, and practise their rites with such secrecy that it is impossible for a stranger to visit their assemblies. So secret are they that Dr. Kopernicky has found it impossible to learn where or how they inter their dead. They never even send their sick to the hospital, and it was only last year that he has had the sole occasion to dissect one of the Scoptsis, one who was found dead in the public highway, and consequently his body had to undergo a medico-legal examination. It is curious from what Dr. Kopernicky has confirmed upon this dead body, that in mutilating themselves they do not stop at the extirpation of the testicles *lege artis*, nor in their extirpation with the scrotum, but they also cut off the entire penis close to the pubes. It should be noted that the larynx of the old castrated men or eunuchs has the feminine form, as is well-known to be the case in emasculated persons in Turkey and Egypt.

(The anatomical preparation was exhibited.)

The photographs now presented to the Society are all of rich individual Scoptsis at Bucharest. They have their privileged photographer, who by chance was discovered by Dr. Kopernicky. Save the expression of their physiognomy—evidently derived from their mutilation—that peculiar mildness and want of force in their countenances, which is heightened by the particular manner in which most of them wear their hair—they are all true types of Moscovites; very different, Dr. Kopernicky adds, from the ideal ones which the Panslavic Congress of Moscow distributed in 1867. In some of them is plainly to be descried the large bony coarse skull of the Moscovite, with a long face, which has been described in the *Thesaurus Craniorum*, p. 120.

It is especially worthy of notice that the religious sects among the Moscovites seem to merit a particular attention anthropologically. First, the true Russians, *i.e.* the White Russians and the Little Russians are all orthodox of the United Greek Church, and there have never been any religious sects among them. Among the Moscovites, on the contrary, it is only the smallest party which is orthodox, and the major part is divided into different sects more or less numerous, of which there are many dozens.

From Dr. Kopernicky I have obtained much further information respecting the history of the Scoptsis. He says, this sect must have taken deep root in the manners and religious ideas of the Moscovites, since the energetic persecution of twenty years to which it was subjected in the time of Nicholas I, has not succeeded in destroying it. Even quite recently it has been said that an important focus of the sect has been discovered at Moscow. An event, which made much noise at the time in Russia, was the discovery at the commencement of last year of quite a centre of Scoptsis at Morshansk, a city of the district of the Government of Tambov.

A rich merchant of that city, named Maxime Plotitsine, being de-

nounced as chief of these sectaries, was arrested, and the domiciliary visit to his house brought to light five unsexed individuals, men and women. They found images of a certain Selivanov and of the Emperor Peter III, both of whom are adored by the Scoptsis as their *Christs*, and of a woman, Akoulina Ivanovna, still living, and honoured by them as *Notre Dame*, or the Virgin. Besides which there were discovered there enormous sums in gold and silver, which certainly constituted the central treasury of the sect. It was affirmed that the police seized 30,000,000 of roubles (£5,000,000 sterling !), which gradually, before it came into the hands of the Government, dwindled down, by means well-known in Russia, to half-a-million of roubles. These millions, accumulated and hidden in one city of the district, and confided without reserve to the discretion of a single private person, prove that the Scoptsis constitute a communist society very powerful and strong in its organisation. As to their proselytism, everything leads to the belief that they have considerable success. Thus in this affair of Morshansk there were fifty Scoptsis, men and women, arrested in the city, and an equal number in the district. Among the arrests there were *members of the Russian clergy*.

As, on the occasion of this affair, the public and the press were chiefly occupied with the treasures and their disappearance, and as the inquest into the affair was made in secret, there were few details of interest published about the Scoptsis of Morshansk, on the extent and the means of their propagandism, their manners and creed, or on the mysteries of their worship. Happily, however, Dr. Kopernicky says, in the *Moscow Gazette* (*Moskovskia Vedomosti*, which is a sort of *Russian Times*), there was a very valuable article, which was published on this occasion (Nos. 51, 52, and 54), under the title of "The Sects of the Scoptsis, in the Government of the Tauride in 1865," *i.e.* four years ago.

As this notice was entirely based upon the official documents of the inquest, it possesses all the merit of unquestionable authenticity. It unveils a series of details so curious and altogether so unknown that Dr. Kopernicky has had the kindness to furnish me with an extract from it.

It was taken on the Sea of Azov, in the Moscovite Colonies, on the two shores of the river Molotchna, in the districts of Berdiansk and Mililopol, which the proselytism of the Scoptsis had principally invaded.

In April, 1865, many rural communes of this last district addressed their complaints to the authorities against the growing phrensy of the Shaloputs, a sort of neophytes, or Scoptsis of the first degree, who are not yet castrated, who in open day had introduced mutilation into the bosom of their families. The most flagrant case was the complaint of a poor old man, whose young and beautiful daughter they had mutilated, without his having any suspicion of it.

It was proved at the inquest that the Shaloputs observed all the religious practices of the orthodox church, but it was only to mislead the surveillance of their neighbours, and to be able to observe their own nocturnal mysteries with more security. They reject all the

bonds of family relations and call their own fathers and mothers "fornicators." They require and receive from their proselytes an oath to keep absolute secrecy upon all that concerns their sect. During their nocturnal services, they cast at the feet of the new converts to be trodden on, the money of the country (the symbol of civil power), the written names of the father and mother of the convert, and the image of a saint (symbol of the official church). It is precisely in these nocturnal assemblies that they practise the sacrifice of castration in the midst of songs and dancing.

The Shaloputs and the Scoptsis are in the habit of establishing their dwellings in the neighbourhood of each other. It was thus, for example, that at Michailovka they occupied "the extremity of the Tim," the name of a district of the government of Kursk, in which village the first Scoptsis arrived in the eighteenth century. There were sixty-six Shaloputs in this village, among whom twelve were mutilated (three men and nine women), many of them recently.

In another village, in two Shaloput families, which contained nine persons, five were found to be castrated, among whom was a boy of 14. In another place likewise, among twenty-three Shaloputs there were eleven adults mutilated (three males and eight females), and three young boys of 15, 14, and 9 years of age. Upon this last, as well as upon two other children of the same age, the operation had been accomplished by "a special proceeding only possible in children" (?). Lastly, in another village there was found a woman of 35 years of age mutilated, who had been blind from birth. They also found Scoptsis who had undergone mutilation, of 60 and 70 years of age. In the whole, among 147 seized and examined in this district, 47 completed Scoptsis were imprisoned; among those there were many more females, 30, than males, 17. Many among the latter had received the *sigillum magnum*, that is to say, as is supposed, they had had their virile members amputated in the manner of the Bucharest Scoptsi, who would have been regarded undoubtedly as one of their saints. Among those arrested were two families of Scoptsis, of whom all were mutilated, both parents and children.

To escape the transportation to Siberia which awaited them, the Scoptsis interrogated ordinarily sought to justify themselves in different ways. Thus the married women either denied altogether their mutilation, or sought to make it believed that the cicatrices observed were the result of ulcerations, or of previous accouchements. The girls pretended that they were congenital vices of conformation, etc. As to the men, some avowed freely and naively that in accordance with the sixth chapter of Matthew they had mutilated themselves; others affirmed that it was an *unknown* person who had mutilated them after having stupefied them by means of a narcotic drink.

As, according to the penal code, Scoptsis who were castrated by violence or by artifice were acquitted, and even received *special* certificates by which they were enabled to dwell in safety, they did not fail to put forth this favourable circumstance, and often sought to give their odious practices all the appearance of an act of violence. As soon as they learned that one of their castrators in any part was

on the point of being seized by the police, they hastened to put themselves in his hands, they made it known to all the communes of the Scoptsis, and set to work with double energy to accomplish the greatest number of castrations possible; all at the expense of this operator. As soon as he is taken, complaints against him arrive from all parts. He does not deny them. And in this way the pretended victims of his barbarous violence get acquitted, and furnished with certificates which defend them from all persecution, and render them still more at liberty to continue their hateful proselytism.

To the exhortations which are made to them during the interrogatory of the inquest, the Shaloputs ordinarily reply in proverbs. "The edifice of the church does not consist of beams, but of ribs," they say, professing their dogma of the *invisible church*. "Do not incense the image, for you will smoke it." "The thieves have cut it, and the cattle are gone;" thus expressing themselves of the orthodox church. "He who has large sleeves has a wicked soul," etc.

The chief of the Militapolitani Scoptsis, a certain *Babanine*, escaped the pursuit. The Shaloputs represent her as an ardent fanatic, eloquent, and possessing the gift of prophesying. It was discovered that she entertained intimate relations with the Scoptsis of Bucharest and of Galatz, in Moldo-Wallachia. These having a great authority over the sectaries, encouraged and sent their benediction for the good work to the Scoptsis of Militapol. The inquest in the district of Berdiansk also showed that the sectaries of this country maintained a mysterious connection with a certain *Akoulina Ivanowna*, who resided secretly at Bielgarad, in the Government of Kursk, and who is adored by the Scoptsis as the "Mother of God," the "Queen of Heaven." The Scoptsis and the Shaloputs make pilgrimages to this goddess, and address prayers to her in their religious services. They affirm that this *Akoulina* dwells behind a *wall of gold*, and that she has never been able to be discovered. And, in fact, on the occasion of the different affairs of the Scoptsis, she was many times sought for by the police, but always in vain. The wall of gold dazzled in such a manner those who sought her.

It was the inquest at Berdiansk principally which brought to light many of the details concerning the dogmas and religious practices of the Scoptsis, of which these are the most prominent.

Babanine taught that to render oneself worthy of entering into the Kingdom of God, and of receiving the spirit of God, it is indispensable for a man to be castrated; for castration is the supreme good work, it is that "seal of God" which marks the elect of the Lord, and is spoken of in the sixth chapter of the Apocalypse. To live with a wife is to practise adultery, and draw down the punishment of God, similar to that which overtook David for having touched the wife of Uriah. *Babanine* ordered the adoration of Peter III as a second Christ, since Peter also was a eunuch and had his twelve disciples whom he sent out to preach the doctrine of the Scoptsis. The twelve apostles of Christ and the twelve disciples of Peter III, these are the twenty-four elders of the Apocalypse, who are seated upon the twenty-four thrones, and

the souls of the massacred at their feet are all the *faithful* belonging to the sect of the Scoptsis.

They reckon among their saints, besides Peter III, the Empress Elizabeth Petrovina, Paul I, and Alexander I, who all protected their sect. Lastly, as has been already said, the same Akoulina Ivanavna, of Bielgarad, is adored by them as the "Queen of Heaven." It may be mentioned that Elizabeth was the daughter of Peter the Great, and reigned upwards of twenty years, was much regretted by her subjects, to whom she had endeared herself by the mildness of her administration. She was succeeded by Peter III, who only reigned six months, when he was dethroned and put into prison, where he died in a week, it is supposed by violence, in which his ambitious consort Catherine was concerned.

The Scoptsis reject the authority of the orthodox church, and call it Babylonian. They reject the eucharist, and hold baptism to be of no value when received from an orthodox priest. Babanine requires that they should be *rebaptised in spirit*. The ceremony of this baptism, practised upon every new convert, is accomplished in the following manner. In their nocturnal assemblies, in which this act ought to take place, they kindle a great number of candles. At the entrance of the neophyte the assembled Shaloputs salute him by saying: "You, who baptise yourself in the name of Christ, put on Christ!" The disciple repeats these words, and adds: "In the name of the Father, and of the Son, and of the Holy Spirit, Amen! Lord! have pity on my soul, receive it among the number of the just, and write my soul in the book of life, in the book of the seventh heaven!" Afterwards Babanine and the baptised pronounce the "canon fidei"; lastly, the latter solemnly repeats the following oath: "Now, O Lord! having received thy law, I will never speak of it to my parents, nor to the world, nor to the *possessors of the darkness of this age* (i.e., to the clergy and the authorities who persecute their sect), and if I should ever speak of it O Lord! then never pardon me, O Lord! nor have pity on me, and may thy cross strike me down, O crucified. Amen."

The oath having been pronounced, they sing "Ave Maria." Afterwards, the newly baptised repeats after Babanine the prayer "Have pity on me!" Addressed successively to the "Lords of God," Peter III, Tiadorovites, Paul I, and Alexander I, and to the "Lady Mothers" Elizabeth Petrovina and Akoulina Ivanovna, "Queen of the Heavens." The ceremony is finished by the absurd question of Babanine, made of the new convert: "Does baptism please you?"

For their nocturnal meeting the Scoptsis have no days fixed beforehand. Each time a meeting ought to take place is arranged five or six days before; when they assemble at ten o'clock at night, and remain till the break of day. Those who become fatigued ascend into the garret of the house to lie down, and are replaced by others who arrive later in the night. In order not to attract the indiscreet attention of the neighbours, in quitting the assembly, they take care to go out in small groups, and many remain till the following night. Their chief especially arrives only in the night, and departs before the day. In these assemblies the sitting is opened by chanting hymns composed

by one of their inspired psalmists, as Babanine. First, it is the men who chant, striking each measure upon their knees. "Omnes gentes plaudite manibus," Ps. The women dance round, stepping in measures—some among them turn themselves round. This dance continues till the complete exhaustion of the dancers, which is often followed by convulsions and vomiting. Then, a change takes place; the women begin to chant, to beat the measure, to jump and turn. This is called "working for God," and constitutes, after mutilation, the work most agreeable to the Lord. Babanine assured her disciples that it was in the same way that our Saviour Himself prayed in the Garden of Gethsemane, and that it was the same dance which the angels of heaven dance round the throne of God, after having expelled Satan. Lastly, that the Lord Himself taught us to *turn* upon Mount Tabor, where He showed His glory, and ascended to heaven *turning*.

The commission of the inquest succeeded in obtaining many of the hymns of the Scoptsis chanted in their assemblies. They are for the most part the most foolish and barbarous absurdities put into bad rhymes and intermixed with flattering allusions to their sect. It is nearly impossible to translate these absurdities into a human language. Dr. Kopernicky has, however, attempted to translate one as a specimen.

"Bless, O secret synod! thy faithful orphans to render glory to the Lord by means of the Divine round"—the dance of the Scoptsis—"it invokes the spirit that he may smile upon us—our Lord and our Life! descend from the seventh heaven. He marches through all the villages; light dwells in Him. The Word is gone forth, the Word delivered by the prophets that we should not do evil." "And again, my dears, I go to tell you a serious saying: *that the treasure may be prepared*" (?) The secret and invisible manna descends to us from heaven, and the living water flows to us also." "Do not delay the moments, for I go to collect the seed."

"All the archbishops and senators will admire his great suffering.

"Our Father the Emperor (Peter III) suffers his last suffering, and inclines himself in prayer before Sabaoth.

"O my heavenly Father! I do Thy will, I do Thy will, and I teach my little children and order them to keep the law.

"Do thou carry the heavenly word, and do thou implore Sabaoth for us all, O our dear Bird!

"Our light, O Lord! will reign shortly both in heaven and on earth. The glory of God, honour and power for ever. Amen!"

After the chants and the exhausting dances, the prophesies follow. The prophet Babanine, in white stockings, the Bible open in her hands, places herself upon a cloth stretched out in the middle of the chamber. The sectaries all on their knees, surround her. Babanine begins:—

"Let us pray rightly, that the second Christ may be brought to life again? He is present among us. Open your ears, for I am going to do miracles! Behold the book of generation (?), the theologian (*sic*) goes to read it to you." And afterwards she begins to prophesy, in absurd and badly rhyming verses, at first, for all in general, and then

for certain Shaloputs in particular. Thus, to one of them she predicts: "Thou, like to the prophet Abbakhum, thou shalt be host in all the cities; and thyself white as a pigeon, thou shalt feed the white pigeons."

To another, who is preparing himself to be castrated, Babanina exclaims:—"O, thou soul well-beloved! thou shalt receive from heaven signs which will astonish the whole family of Israel. . . . And the Father will not fail to give thee the heptagon (?) crown. It is alone necessary that thou shalt decide to pour out thy blood for Christ!" All the auditory weep aloud, moved by these sublime words.

It is with particular vehemence that this Babanine preaches against the sin of the violation of the secret, as of Judas selling Christ. She also interprets with ardour the Apocalypse, and principally the sixth chapter. The second verse of this chapter is referred to Peter III, who, being castrated, vanquished the enemy; the fourth verse is supposed to relate to Alexander I; the fifth and sixth verses to the Scoptsis, and the extension of their sect. *Bilibris tritici* signifies the sacrifice of castration; *tres bilibres hordei denario* signifies that one not castrated must work three times more than the eunuch to attain salvation. *Oleum* signifies grace, *vinum* joy, destined for the Scoptsis. The eighth verse has relation to Nicholas I, who delivered the people of God—the Scoptsis—as a prey to the beasts of the earth, to the archbishops, and impure authorities. In the ninth chapter, the "seal of God" signifies mutilation, and the "locusts" war and crimes.

This is a tolerably faithful, although certainly not complete picture of this savage and extraordinary sect. The fully proved existence of such a sect, especially as a Christian sect, seems to be a phenomenon truly worthy to attract the attention of anthropologists.

Dr. Kopernicky says that he considers there are many reasons for believing that this aberration in Christianity cannot be explained otherwise than by the psychological peculiarity of the race of Moscovites, in which it prevails. He adds, that he well recollects the judicious and profound opinions pronounced by the Rev. Dunbar Heath, already alluded to, upon the difference which exists between the Semite and Aryan races in their appreciation of the doctrine of Christianity. In reflecting on the Scoptsis, who exist and prosper among the Moscovites, it may be equally asked—what is this race which, having received Christianity, is capable of producing and suffering such fruits.

Dr. Kopernicky holds it for an anthropological fact least questionable that the ideas and religious creeds, sound or absurd, moral or immoral, etc., which are produced, or develop themselves among a certain race, depend greatly upon the character of the psychological sentiments natural to that race. This is the reason why the Gospel was so readily accepted, and has taken such root among the Aryan people, and why, on the contrary, the Koran has had most success and most persistence among the Semites. It is also the reason why, as has been demonstrated by the learned discussions in the bosom of this Anthropological Society of London, the propagation of Mohammedanism has more chances of success among African Negroes than Christian missions have hitherto had.

In examining the nature and the origin of Christian sects from this point of view—as so many varieties in religious belief produced in Christianity—it is seen that we shall confirm the same fact of the existence of an intimate and natural bond between the psychological character of a race and its religious ideas and practices. Thus, among the Christian sects so numerous in the United States of America, we only see for the most part extravagances which are purely doctrinal, or different aberrations which manifest themselves by strange rites, and which are at most ridiculous or absurd. But a sect so *dénaturée et barbare* as that of the Scoptsis, the Chlystis, the Molokans, and others which prosper among the Moscovites, never could subsist in America, even for half a year. They would be driven away in a manner the Mormons, who are much less monstrous than the Scoptsis, have been driven into the desert.

Then what is this Moscovite race, which, becoming Christian, gives birth to religious monstrosities of this kind? It is not the Slave race without doubt, since that which precisely distinguishes the Sclavic nations in their religious creeds is their attachment to a religion once adopted and become traditional. Thus, to speak only of the *Orthodox* Slaves, the nearest to the Moscovites, *i.e.* the Ruthenians and the White Russians, the fact is, that since the introduction of Christianity there have never existed sects among them, in the way that they are seen among the Muscovites.

But, it may be replied, that race has nothing to do with the origin of such sects as the Scoptsis, since this is a *morbid* phenomenon, so to speak, and which, under one form or another, may arise anywhere, especially where, as in Russia, the people are not enlightened and the clergy ignorant.

A reply might be made by directing attention to the same Ruthenians, the Serfs, the Bulgarians, and the Moldo-Wallachians, who are not at all more advanced in civilisation than the Moscovites, but among whom a similar phenomenon never has been and never will be produced. It is certainly because that, in the nature of these races, there are no necessary elements for the production and nourishment of such monstrosities.

There is one thing among the Scoptsis to which Dr. Kopernicky is disposed to attribute a Tatar origin, *i.e.*, their dancing and rotation until fainting and ecstasy are produced, which reminds us of the whirling Dervishes of Central Asia. This is so much the more probable, as there are other sects, as the Chlystys and the Dancers, in which dancing and prophesying constitute integral parts of their religious mysteries.

Dr. Kopernicky's recital reveals a striking difference in the state of society and laws under which the Scoptsis are placed from those which prevail in this country. Here all things are tolerated in religion, even enforced celibacy, both of males and females, however unnatural. Although not accompanied with mutilations such as those practised by the Scoptsis, it is equally contrary to the law of nature, and also productive of a frightful amount of evil. Similar mutilations to those practised by the Scoptsis, as far as castration goes, are sometimes met

with in this country, but they are usually made known only among the inmates of our lunatic asylums, who occasionally mutilate themselves.

The term "Raskol", it has already been explained, is the name under which all dissenters in Russia are included. This designation appears to be applied to the Great Russians or Moscovites solely. It is worthy of being communicated to the Society that there is another sect of the Bespopovchchina, or first division of the Raskol, who are in Siberia, which sect has proceeded to greater lengths even than those exhibited by the Scoptsis. This is the Tschovstevnicks (meaning those who are sensible, as if in derision of their practices) who, not only live in celibacy, but also voluntarily devote themselves to the flames, which has been done in recent times amid religious chants, and without drawing from them any indications of pain by cries or trepidation. It was thus that in the neighbourhood of the town of Tumen, in Western Siberia, one thousand seven hundred persons, with an ecclesiastic named Dometian, took the resolution to burn themselves together.

In confirmation of the theory of Dr. Kopernicky, a reference might be made to the races of India, in whom religious practices most contrary to reason and nature prevail extensively. Devotees observe rites which are quite frightful and abominable. One which is practised may be mentioned. There are some fanatics who avoid excrementitious evacuations. They are said to live upon milk, and, after having taken it some little time, they swallow a small ball attached to a string, which causes them to vomit up the remora. They thus avoid the evacuation of feces in the ordinary and natural manner.

It may be added that the priests of the Phrygian Cybele castrated themselves, which was done with a potsherd, that by lacerating the vessels would prevent hæmorrhage. The same rule was binding upon the priests of the "Dea Syria," who in many points resembles the Greek Aphrodite, and was worshipped at Edessa. But it is related that they emasculated themselves by the external application of a plant which is translated "hemlock". A learned friend, who has reminded me of these instances, says that there was not any early Christian sect observing such a rule, but that individuals thought it imperative to obey the injunction in St. Matthew, as in the case of the celebrated Origen.

The mode of arranging the hair seen in the photographs of the Scoptsis, by parting it down the middle, is not exclusively peculiar to that sect. All the Moscovites, without exception, wear it in the same manner. This fashion does not prevail among the Little Russians, nor among the Lithuanians or Poles.

It is not known at what period the sect of the Scoptsis took its rise, but it probably arose during the latter half of the last century, about the time of the great revolt of Pougatcheff (1770-73), which would connect it with the Emperor Peter III, their saint.

The kind of operation practised by the Scoptsis upon women is wholly unknown.

It is remarkable, but deserving of anthropological notice, that the

Moscovites or Great Russians, amongst whom exclusively the Scoptsis prevail, are also distinguished among the people of Russia for their fits of drunkenness, which are not met with among the Little Russians, nor the White Russians. These are regarded as a disease, which has the name of Zapoï.

Discussion having been invited,

The Rev. DUNBAR I. HEATH said that the paper was very opportune, as Professor Max Müller had lately drawn attention to the natural law by which all known religions had grown one out of the other. The subjects to which he would direct attention were two : first, to what racial religion this extraordinary sect belonged ; and second, to the great question which their practices so vividly brought before us as to the contest between individual rights against society and those of society against the individual. It had been said that, being Christians, their religion must be substantially Semitic. Not so. Throughout the whole of the Hebrew sacred writings it was recognised that sexuality was not evil. The Jews held the eunuch to be unclean, and for that reason rejected the prophet Daniel, from whom we derive the most fundamental ideas of our present Christianity. Neither in the history of their greatest saints, nor in the precepts of their greatest writers, was even ordinary chastity recommended, still less the essential rites of these Scoptsi. As to putting down the Scoptsi by force, on the plea that their practices are injurious to society, there were at that moment women in England not only suffering from one of the most frightful of diseases, but one which was also most frightfully contagious, and not only most frightfully contagious, but most frightfully hereditary. The harm done to society by these unfortunates is a thousandfold greater than that done by the Scoptsi, who simply take the most straightforward means of escaping from what they conceive to be wicked. Yet very many are seeking in the name of individual right to perpetuate misery and deformity among our progeny. The solution of this great contest, viz., the contest between opposing rights is to be found, as Buckle says, only in the increase of knowledge, society is happily now more and more emancipated from the old ideas imposed on it by a tyrannical religiosity. It is becoming more and more benevolent, more and more charitable, affectionate, and good.

Dr. T. SPENCER COBBOLD described the extent of the mutilation as shown by the preparation exhibited.

Dr. CHARNOCK said it seemed doubtful from the paper upon which verse in Matthew the Scoptsi based their origin. In two places it was said that they acted in accordance with Matth. xix : it afterwards appeared that the peculiarities of the sect arose through the literal interpretation of the Evangelist "*Expedi enim tibi ut pereat unum membrum tuorum*" (Matth. v, verse 29) ; but the latter had reference to plucking out the right eye, cutting off the right hand, and however silly these people might be, they could have hardly confounded the eye or the hand with the *membrum virile*. Without doubt the sect had originated through the misinterpretation of Matt. xix, v. 12 :—"For there were some eunuchs which were so born from their mother's womb, and there are some eunuchs which were made eunuchs of men, and there

be eunuchs which have made themselves eunuchs for the kingdom of heaven's sake. He that is able to receive it let him receive it." According to the best commentators, the assertion that some eunuchs made themselves such referred to the living a life of celibacy and not to mutilating the body,* and the words "Ο δυνάμενος χωρεῖν, χωρεῖτω, merely meant that those who were able to lead such a life had better do so. It was not, however, difficult to understand that the Scoptsi should have mistaken the passage in Matthew. Origen, the celebrated Christian writer, interpreting this to the letter, castrated himself; but it was a fact that he afterwards repented of what he had done, and in a commentary on Matth. xix, repudiated this literal understanding of the words. Again, a sect called Valentinians (who took their name from the celebrated Gnostic Valentinus), interpreting this injunction to the letter, castrated themselves. Moreover the practice is recommended by Philon the Jew and other ancient philosophers for the sake of chastity. Dr. Barnard Davis says that among the Ruthenians, Serbs, Bulgarians, and Moldo-Wallachians, who are not more advanced in civilisation than the Moscovites, similar phenomena never have been, and never will be, produced. It was, perhaps, questionable whether civilisation had anything to do with the matter, and it was impossible to say what might not take place. Dr. Charnock was glad to hear the opinion of the authors of the paper as to the terms "Aryan" and "Semitic." The former term had no meaning, either ethnologically, geographically, or philologically, and was only equalled in absurdity by that of Turanian. The name of the Scoptsi was no doubt derived from the Russian word *skopet*, to castrate. The word *Popovshcheena* meant "those who have priests;" *Bespovoscheena*, "those without priests." He agreed with Dr. Carter Blake that the facial character, as shown by the photographs produced, differed little from that of the Russians generally.

Mr. W. R. S. RALSTON (of the British Museum) said that the word Scoptsi was derived from the verb in its infinitive, *skopit*, to castrate. Hence *skopets*, an eunuch; and nominative plural *skoptsi*, eunuchs. Their numbers were supposed to have been at the time of the report sent in to the minister of the interior (in Russia) about two thousand. Almost all of them live in the governments of Moscow or Tambof. But about one hundred and seventy are at St. Petersburg, chiefly money-changers. The appearance of these people is so strange and characteristic, that no one who has observed them can fail afterwards to recognise them. At a little distance, their faces seem almost youthful; seen nearer, they are found to be equally wanting in the usual marks of early life or of later age. The cheeks are generally smooth, though some of them have a thin whisker or beard, and they have a kind of creased or rumpled look. The mouth is usually weak; but the most striking features are the hue of the skin and the expression of the eye. Their complexion is pallid, tallowy, and unwholesome; and, although it may have a touch of colour, the skin seems to be rather painted than suffused. Below the eye, the skin is drawn

* The Vulgate has, however, "Et sunt eunuchi, seipsos castraverunt propter regnum cælorum."

and dark ; in extreme cases, the eye itself is glassy and lustreless, while, from its corners, thousands of fine wrinkles spread over the face, puckering it so strangely as though a cobweb were clinging to it. Many Scoptsi do not differ much in appearance from other Russians ; but they are always recognisable at first sight, owing to their having some of that worn and haggard aspect which, in other members of the community, becomes utter ghastliness. In a curious collection of documents relating to the Roskolniks, or schismatics, of Russia, printed privately, by order of the Russian Government, but afterwards reprinted in London, and published by Mr. Trübner, with a French title (*Recueil de Documents Officiels sur les Dissidents Russes*, 6 vols. London: 1863), much information is given concerning the Scoptsi. This work is accompanied by an album of photographs, most of which are taken from drawings made for the purpose of illustrating the volume devoted to this and several kindred sects. Among them are five representations of secret rites of the Scoptsi. The first of these pictures represents their ceremony of initiation ; in the last, a novice is being received at a formal meeting of the members of the sect. The others show their wild dances, technically called *Radzeniga* (*Radzenie* properly means zeal). The circular dance of the Scoptsi is called the "boat *Radzenie*"; for their community is styled by them "the boat" (*Kopablik*), and its members "boatmen". Their enemies assert that these dances degenerate into horrible orgies ; but such charges must always be regarded with suspicion. In many respects they may be compared with the Essenes, especially so far as they form a permanent community, in spite of their singular ideas about the marriage state. The Essenes were recruited from without, and so are the Scoptsi. Every Scopet is anxious to enlist new members ; for he becomes an "apostle" as soon as he has made twelve converts. They are well-behaved people in most respects, honest, sober, thrifty. But the government has always more or less proscribed them, and attempts have been made from time to time to crush them. The chances are that as education progresses in Russia, and a purer religious feeling spreads among its inhabitants, such manifestations of diverted piety as these pitiable fanatics exhibit will become rarer and rarer, and finally disappear altogether.

After further remarks from Mr. Walter Dendy, Mr. Moncure Conway, Mr. Charlesworth, and Mr. Lewis, the meeting adjourned till 5th April.

APRIL 5TH, 1870.

CAPTAIN BEDFORD PIM, R.N., V.P., IN THE CHAIR.

The minutes were read and confirmed.

The thanks of the meeting were voted for the list of presents, viz. :

FOR THE LIBRARY.

From the SOCIETY.—Proceedings of the Geological and Polytechnic Society of Yorkshire, 1869.

From the SOCIETY.—Proceedings of the Royal Geographical Society, No. 1, vol. xiv.

From the AUTHOR.—Description of the Cavern of Bruniquel and its organic remains, by Professor R. Owen, F.R.S.

From the ACADEMY.—Bulletin de l'Academie Imperiale des Sciences de St. Petersburg, tom. xiv, Nos. 1, 2, 3.

From GEORGE TATE, Esq.—Proceedings of the Berwickshire Naturalists' Club.

From the SOCIETY.—Proceedings of the Royal Society, No. 117.

From the AUTHOR.—Descrizione di un Celosomo Dirino con exencefalia idiocefalica, by Prof. A. Garbiglietti.

From the EDITOR.—Scientific Opinion (to date).

From the EDITOR.—Nature (to date).

From the SOCIETY.—Journal of the Ethnological Society of London, April, 1870.

From the AUTHOR.—L'Os Intermaxillaire de l'Homme, by Dr. E. T. Hamy.

From the SOCIETY.—Proceedings of the Asiatic Society of Bengal, No. 9, 1869, No. 1, 1870; Journal ditto, part i, No. 4, 1869.

FOR THE MUSEUM.

From R. B. N. WALKER, Esq.—Skulls (3) from West Africa.

A paper by Mr. HODDER M. WESTROPP "On Phallic Worship," was read as follows:—

Human nature is the same in all climes, and the workings of this same human nature are almost identical in the different stages of its growth. Hence similar and analogous ideas, beliefs, and superstitious practices are frequently evolved independently among different peoples. These are the result of suggestions arising spontaneously in the human mind at certain stages of its development, and which seem to be almost universal.

As a remarkable instance of this, I have drawn up the following sketch of Phallic worship, which was one of those beliefs or superstitious practices which have sprung up independently, and which seem to have extensively prevailed among many nations.

It will acquire additional interest when it is considered that it is the most ancient of the superstitions of the human race, that it has prevailed more or less among all known people in ancient times, and that it has been handed down even to a very late and Christian period.

In the earlier ages the operations of nature made a stronger impression on the minds of men. Those ideas, springing from the constant ob-

servation of the modes of acting in nature were consequently more readily suggested to the minds of all races of men in the primitive ages.

Two causes must have forcibly struck the minds of men in those early periods when observant of the operations of nature, one the generative power, and the other the productive, the active and passive causes. This double mode of production visible in nature must have given rise to comparisons with the mode of proceeding in the generation of animals, in which two causes concur, the one active and the other passive, the one male and the other female, the one as father, the other as mother. These ideas were doubtless suggested independently and spontaneously in different countries; for the human mind is so constituted that the same objects and the same operations of nature will suggest like ideas in the minds of men of all races, however widely apart.

Nature to the early man was not brute matter, but a being invested with his own personality, and endowed with the same feelings, passions, and performing the same actions. He could only conceive the course of nature from the analogy to his own actions. Generation, begetting—production, bringing forth—were thus his ideas of cause and effect. The earth was looked upon as the mould of nature, as the recipient of seeds, the nurse of what was produced in its bosom; the sky was the fecundating and fertilising power. An analogy was suggested in the union of the male and female. These comparisons are found in ancient writers. “The sky,” Plutarch says, “appeared to men to perform the functions of a father, as the earth those of a mother. The sky was the father, for it cast seed into the bosom of the earth, which in receiving them became fruitful and brought forth, and was the mother.”

This union has been sung in the following verses by Virgil :—

“Tum pater omnipotens fecundis imbris æther
Conjugis in gremium lætæ descendit.”—*Geor.* II.

Columella has related, in his treatise on agriculture, the loves of nature, or the marriage of heaven and earth, which takes place in the spring of the year.

These ideas bear a prominent part in the religious creeds of several nations. In Egypt the Deity or principle of generation was Khem, called “the father”—the abstract idea of father; as the goddess Maut was that of mother. The office of Khem was not confined to the procreation and continuation of the human species, but extended even to the vegetable world, over which he presided, when we find his statue accompanied by trees and plants; and kings offering to him herbs of the ground, cutting the corn before him, or employed in his presence tilling the land, and preparing it to receive the generating influence of the deity.

In the Saiva Purana of the Hindoos, Siva says: “From the supreme spirit proceed Purusha (the generative or male principle), Prakiti (the productive or female principle), and Tirue; and by them was produced this universe, the manifestation of the one god. . . . Of all organs of sense and intellect, the best is mind, which proceeds from Ahankara, Ahankara from intellect, intellect from the supreme being, who is, in fact,

Purusha. It is the primeval male, whose form constitutes the universe, and whose breath is the sky ; and though incorporeal that male am I." In the *Kritya Tatwa*, Siva is thus addressed by Brahma : "I know that Thou, O Lord, art the eternal Brahm, that seed which, being received in the womb of thy Sakti (aptitude to conceive) produced this universe ; that thou united with thy Sakti dost create the universe from thine own substance like the web from the spider." In the same creed Siva is the personification of the sun (which he is equally with Surya) or fire, the genial heat which pervades, generates and vivifies all ; and Bhavani, who, as the goddess of nature is also the earth, is the universal mother.

Among the Assyrians, the supreme god, Bel, was styled "the procreator"; and his wife, the goddess Mylitta, represented the productive principle of nature, and received the title of the queen of fertility. Another deity, the god Vul, the god of the atmosphere, is styled the beneficent chief, the giver of abundance, the lord of fecundity. On Assyrian cylinders he is represented as a phallic deity. With him is associated a goddess Shala, whose ordinary title is "Sarrat," queen, the feminine of the word "Sar," which means chief. Sir Henry Rawlinson remarks, with regard to the Assyrian San, or Shamas, the sun-god, that the idea of the motive influence of the sun-god in all human affairs arose from the manifest agency of the material sun in stimulating the functions of nature. In Phœnician mythology, Ouranos (heaven) weds Ghè (the earth), and by her becomes father of Oceanus, Hyperon, Iapetus, Cronos, and other gods. In conformity with the religious ideas of the Greeks and Romans, Virgil describes the products of the earth as the result of the conjugal act between Jupiter (the sky) and Juno (the earth). According to St. Augustin, the sexual organ of man was consecrated in the temple of Liber, that of woman in the sanctuaries of Libera, these two divinities were named father and mother.

In the month of April, when the fertilising powers of nature begin to operate and its productive powers to be visibly developed, a festival in honour of Venus took place at Rome, in it the phallus was carried in a cart, and led in procession by the Roman ladies to the temple of Venus outside the Colline gate, and then presented by them to the sexual parts of the goddess. This is only symbolising the same idea as expressed by Virgil in the *Georgics*. We find similar ideas in the religious creeds of America, and of the remote islands of the Pacific Ocean. According to the Indians of Central America, Famagostad and Zipaltonal, the first male and the second female, created heaven, earth, man, and all things.

The Tahitians imagined that everything which exists in the universe proceeds from the union of two beings ; one of them was named Taroataihetounou : the other Tepapa ; they were supposed to produce continually and by connection the days and months. Those islanders supposed that the sun and moon, which are gods, had begotten the stars, and that the eclipses were the time of their copulation.

A New Zealand myth says we have two primeval ancestors, a father and a mother. They are rangi and papa, heaven and earth. The

earth, out of which all things are produced, is our mother ; the protecting and overruling heaven is our father.

It is thus evident that the doctrine of the reciprocal principles of nature, or nature active and passive, male and female, was recognised in nearly all the primitive religious systems of the old as well as of the new world, and in none more clearly than in those of Central America ; thus proving, not only the wide extent of the doctrine, but also its separate and independent origin, springing from those innate principles which are common to human nature in all climes and races. Hence the almost universal reverence paid to the images of the sexual parts as they were regarded as symbols and types of the generative and productive principles in nature, and of those gods and goddesses who were the representatives of the same principles. The Phallus and the Cteis, the Lingam and the Yoni—the special parts contributing to generation and production, becoming thus symbols of those active and passive causes, could not but become objects of reverence and worship. The union of the two symbolised the creative energy of all nature ; for almost all primitive religion consisted in the reverence and worship paid to nature and its operations.

Evidence that this worship extensively prevailed will be found in many countries, both in ancient and modern times. It occurs in ancient Egypt, in India, in Syria, in Babylon, among the Assyrians, in Persia, Greece, Italy, Spain, Germany, Scandinavia, and among the Gauls. In Egypt, the phallus is frequently represented as the symbol of generation. According to Ptolemy, the Phallus was the object of religious worship among the Assyrians and also among the Persians. In Syria, Baal-peor was represented with a phallus in his mouth, according to St. Jerome. The Jews did not escape this worship ; and we see their women manufacturing phalli of gold and of silver, as we find in Ezekiel xvi, 17. Among the Hindoos a religious reverence was paid to the Lingam and Yoni, and among the Greeks and Romans to the Phallus and Cteis. Among the Teutons and Scandinavians, the god Fricco, corresponding to the Priapus of the Romans, was adored under the form of a phallus ; a similar god under a similar symbol was adored in Spain, whose name was Hortanes.

This worship has been found in different parts of America, in Mexico, in Peru, at Hayti ; it still prevails at the present day in a great part of India and Thibet. According to Mr. Stephens, the upright pillar in front of the temples of Yucatan is a phallus. We read in an ancient document written by one of the companions of Fernando Cortez : “In certain countries, and particularly at Panuco, they adore the Phallus (il membro che portano gli uomini fra le gambe), and it is preserved in the temples.” The inhabitants of Tlascala also paid worship to the sexual organs of a man and woman. In Peru, several representations in clay of the Phallus are met with. At Hayti, according to Mr. Artaud, phalli have been discovered in different parts of the island, and are believed to be undoubtedly the manufacture of the original inhabitants of the island. In one of the Marianne islands of the Pacific Ocean, on festive occasions, a phallus, highly ornamented, called by the natives Tinas, is carried in procession.

Among the simple and primitive races of men, the act of generation was considered as no more than one of the operations of nature contributing to the reproduction of the species, as in agriculture the sowing of seed for the production of corn, and was consequently looked upon as a solemn duty consecrated to the Deity; as Payne Knight remarks, it was considered as a solemn sacrament in honour of the Creator.

In those early ages, all the operations of nature were consecrated to some divinity, from whom they were supposed to emanate; thus the sowing of seed was presided over by Ceres.

In Egypt, the act of generation was consecrated to Khem; in Assyria, to Vul; in India, to Siva; in Greece in the primitive pastoral age, to Pan; and in later times, to Priapus; and in Italy, to Mutinus. Among the Mexicans, the god of generation was named Triazoltenti. These gods became the representatives of the generative or fructifying powers in man and nature.

The following curious passage from Voltaire (*Oreilles du Comte de Chesterfield*), borrowed from Cook's *First Voyage*, will show that almost similar views were entertained by a primitive race in the islands of the Pacific Ocean, which must have been suggested independently, from their complete disconnection with the ancient world. "The Princess Obeira, queen of the island of Otaheite, after having made us many presents with a politeness worthy of a queen of England, was anxious to be present some morning at our English service. We celebrated it with as much ceremony as possible. She invited us to hers after dinner; it was on the 14th of May, 1769. We found her surrounded by about a thousand persons of both sexes, ranged in a semicircle, and in a respectful silence. A very pretty young girl, slightly dressed, was lying on a raised bench, which served as an altar. The Queen Obeira ordered a handsome young man of about twenty to go and sacrifice. He uttered a kind of prayer, and ascended the altar. The two sacrificers were half naked. The queen, with a majestic air, taught the young victim the most proper manner to consummate the sacrifice. All the Otaheitans were so attentive and respectful, that none of our sailors dared to interrupt the ceremony by an indecent laugh. This is what I have seen; it is for you to draw your own inferences." "This sacred festival does not astonish me," said Dr. Goodman; "I feel persuaded that this was the first festival that men ever celebrated; and I do not see why we should not pray to God when we are going to make a being in his image, as we pray before we take our food, which serves to support our body; working to give birth to a reasonable being is a most noble and holy action. It is thus the first Indians thought, who revered the lingam, the symbol of generation; the ancient Egyptians, who carried the phallus in procession; the Greeks, who erected temples to Priapus."

The reverence, as well as worship, paid to the phallus in the early ages had nothing in it which partook of indecency: all ideas connected with it were of a reverential and religious kind. When Abraham, as mentioned in Genesis, in asking his servant to take a solemn oath, makes him lay his hand on his parts of generation (in

the common version, "under his thigh"), it was that he required as a token of his sincerity his placing his hand on the most revered part of his body ; as, at the present day, a man would place his hand on his heart in order to evince his sincerity. Jacob, when dying, makes his son Joseph perform the same act. A similar custom is still retained among the Arabs at the present day. An Arab, in taking a solemn oath, will place his hand on his membrum virile in attestation of his sincerity.

The indecent ideas attached to the phallic symbol were, though it seems a paradox to say so, the result of a more advanced civilisation verging towards its decline, as we have evidence at Rome and Pompeii.

We may here introduce an extremely just and apposite remark of Constant in his work on Roman polytheism : "Indecent rites may be practised by a religious people with the greatest purity of heart. But when incredulity has gained a footing among these peoples, these rites become then the cause and pretext of the most revolting corruption." A similar remark has been made by Voltaire. Speaking of the worship of Priapus, he says, "our ideas of propriety lead us to suppose that a ceremony which appears to us so infamous could only be invented by licentiousness ; but it is impossible to believe that depravity of manners would ever have led among any people to the establishment of religious ceremonies. It is probable, on the contrary, that this custom was first introduced in times of simplicity, that the first thought was to honour the deity in the symbol of life which it has given us. Such a ceremony may have excited licentiousness among youths, and have appeared ridiculous to men of education in more refined, more corrupt, and more enlightened times."

Three phases in the representation of the phallus, should be distinguished ; first, when it was the object of reverence and religious worship ; secondly, when it was used as a protecting power against evil influences of various kinds, and as a charm or amulet against envy and the evil eye, as at the postern gate at Alatri and at Pompeii, and as frequently occurs in amulets of porcelain found in Egypt, and of bronze in Italy ; thirdly, when it was the result of mere licentiousness and dissolute morals. Another cause also contributed to its reverence and frequent representation—the natural desire of women among all races, barbarous as well as civilised, to be the fruitful mother of children—especially as among some people women were esteemed according to the number of children they bore, and as among the Mohammedans of the present day, it is sinful not to contribute to the population ; as a symbol, therefore, of prolificacy, and as the bestower of offspring, the phallus became an object of reverence and especial worship among women. At Pompeii was found a gold ring, with the representation of the phallus on its bezel, supposed to have been worn by a barren woman. To propitiate the deity and to obtain offspring, offerings of this symbol were made in Roman temples by women, and this custom has been retained in modern times at Isernia, near Naples. Stone offerings of phalli are also made at the present day in a Buddhist temple in Peking, and for the same object Mohammedan women kiss with reverence the organ of generation of an idiot or saint. In

India this worship has found its most extensive development. There young girls who are anxious for husbands, and married women who are desirous of progeny, are ardent worshippers of Siva; and his symbol, the Lingam, is sometimes exhibited in enormous proportions.

In the sixteenth century, St. Foutin, in the south of France, St. Ters at Antwerp, and in the last century Saints Cosmo and Damiano at Isernia, near Naples, were worshipped for the same purpose by young girls and barren women.

Sir Gardner Wilkinson records similar superstitious practices at the present day at Ekhnim in Egypt. The superstitions of the natives here ascribed the same properties to a stone in one of the sheikh's tombs, and likewise to that of the temple of Pan, which the statues of the god of generation, the patron deity of Panopolis (Ekhnim), were formerly believed to have possessed; and the modern women of Ekhnim, with similar hopes and equal credulity, offer their vows to these relics for a numerous progeny.

We may conclude with the following passage from Captain Burton, which exhibits similar customs among a rude and barbarous people of the present day: "Among all barbarians whose primal want is progeny, we observe a greater or less development of the phallic worship. In Dahomè it is uncomfortably prominent. Every street from Whydah to the capital is adorned with the symbol, and the old ones are not removed. The Dahoman Priapus is a clay figure, of any size between a giant and the pigmy, crouched upon the ground, as if contemplating its own attributes. The head is sometimes a wooden block rudely carved, more often dried mud, and the eyes and teeth are supplied by cowries. A huge penis, like the section of a broomstick, rudely carved, as similar Japanese articles, projects horizontally from the middle. The tree of life is anointed with palm-oil, which drips into a pot or a shard placed below it, and the would-be mother of children prays that the great god Legba will make her fertile."

Mr. C. STANILAND WAKE then read a paper, "On the Influence of the Phallic Idea in the Religions of Antiquity."

[Abstract.]

After showing that the phallic superstition originated in the desire for children, and in the veneration for the instrument through which this desire was gratified, the paper proceeded to consider the legend of the "fall," which is proved to have had a phallic basis, from the association with it of the serpent, the tree, and the cherubim, all of which embody phallic ideas. The legend itself was derived from a Persian source, although it originated with the Chaldeans. The paper then traced the worship of the pillar-god, the Syro-Egyptian Hermes-Thoth, and the deity symbolised by the *beth-el* of the Hebrew patriarchs, showing its connection with the Sun-worship practised, if not introduced, by Abraham, and the primeval worship of Saturn. The generative attribute of this deity had, however, more especial reference to *man*; and the bull, which afterwards became the symbol of the Sun-god, was used as the emblem of fecundity in *nature*. The peculiar symbol of the pillar-gods as sun-deities was the serpent. The progress of sun-worship was

shortly pointed out, and the development of the idea of "wisdom," attributed to the Aryan and Grecian deities. After referring to the deluge-legend, the paper concluded with a notice of the phallic character of Hinduism and Buddhism, and the phallic symbols of Christianity.

The CHAIRMAN having invited discussion on the above two papers,

Mr. VILLIN said: The paper which was first read does not seem to contain a single new fact, and repeats many errors already admitted to be errors. This paper is nothing but an abstract of Boudin's book on Phallic Worship; and Boudin's book is nothing else than a badly conceived compilation of earlier writers, every one of whose writings is teeming with errors. We cannot let this opportunity pass without pointing out some of the gross mistakes which are handed down to us as facts. All those who have read Boudin's book will admit that such a writer—however worthy of credit on other branches of anthropology, as he is undoubtedly—cannot for a single moment pass for an authority on the score of phallic worship. He indiscriminately repeats what he finds in old authors, without sifting facts from exaggerations, or questioning the veracity, judgment, or impartiality of those authors. It is the business of a learned society to reject authorities, however old or respected they may have been, if, after having been submitted to the ordinary rules of criticism, the facts enunciated cannot apparently be maintained. The author of this paper, in the very first sentence, endorses Boudin's paradox, "that human nature is the same in all climes"; and from this paradox he naturally infers that phallic worship has been universal. But, in the first place, every anthropologist will grant that, if the genus *Homo* is the genus *Homo* in all climes, *human nature* is, or appears to be, very different in China or Africa from what it is in Europe or America. If the doubt on this point was not shared by almost every one, would the Anthropological Society exist? Would not a Londoner be quite as good a subject for study as twenty different races, for the purpose of knowing what is and what is not human nature? In the second place, if it be proved that Phallism has really existed as a worship or religion, the proofs are still wanting for us to admit that this religion was at any time universal, for most of the so-called proofs which were enumerated to us to night are mere assertions. It will be sufficient for me to point out a few of the errors contained in this paper in order to show how cautious we should be in the collecting of our facts. Mr. Westropp takes for granted all he finds in Boudin, and consequently he quotes St. Augustine, St. Jerome, Arnobius, de l'Estoile, and an unknown Spanish writer—a companion, it is said, of Columbus—who is cited in Italian, although why not in Spanish does not appear. The author does not seem to recollect that the writings of the early fathers of the Church should only be read with the greatest caution when they profess to record the history of the times. They had an interest to blacken Roman Society and to contrast it with the usual purity of the Christians—they were partisans—hence very partial indeed. When St. Augustine assures us that "one of the most respectable Roman matrons crowned the Phallus in public"—a ceremony which must have been very rare

in the fourth century, considering—firstly, the religious indifference of Roman Society; and secondly, that Phallism was entirely extinct, if it had existed as a worship at all, at that period,—when we are told this, we *may* believe the ceremony of the coronation to have taken place, improbable as it seems; but the lady officiating must have been, not a respectable matron, but a prostitute—in the same manner that the Goddess of Reason of Robespierre, during the French Revolution, was personated by a woman of a loose character, to say the least. We must not forget that St. Augustine wrote his book as an answer to the accusations of the Romans against the Christian Roman Government, which had proved itself incapable of preventing the taking of Rome by Alaric. The father's reply was that the abominations of Roman Society were deserving of the punishment inflicted by the Barbarians; and, to make a good case of his pleading, he gleaned all that could be said against Pagan Rome, and exaggerated individual crimes or individual cases into vices universally pervading the whole community. In his eagerness to gather a long nomenclature of crimes, he sometimes lost his judgment altogether: he accepted as facts, and represented as crimes chargeable against Roman Society, the adventures of Lucius in the "Golden Ass" of Apuleius, and he took a laughable romance for a true story, admitting thereby his belief in the possibility of Lucius being changed into an ass. It is, however, historically and undoubtedly established that the morals of the Romans were never better than under the Antonines, the period during which Apuleius lived and which St. Augustine takes pains to make especially abominable.

Livy, it is true, speaks of the advisability of finding a remedy for the looseness of the morals in his time, but in every country there have been periods when it was necessary for the legislature to check vices. St. Jerome and Arnobius are quite as unreliable as St. Augustine. At Pompeii the Phalli found at the outward entrance of some houses with the inscription "*Hic habitat felicitas*," were not, as is taken for granted, protecting symbols, but merely signs to houses of tolerance. De l'Estoile speaks in his journal of St. Foutin, St. Vit, in France, as indicative of depravity, and Boudin takes these two Saints to be Phallic personifications, whereas the real fact is that Foutin is the misspelling of St. Photin who, Eusebius tells us, died a martyr at Lyons; and St. Vit is, in the same way, the corruption of St. Avit, Bishop of Clermont in Auvergne, in the sixth century. In Mexico, after the anonymous journal of a supposed companion of Cortez, we are told in Italian:—"In certain countries they adore *il membro che portano gli uomini fra le gambe*." Why should we not rather follow the version of the best of all Spanish historians of the Conquest—De Solis? This author has sifted his facts and written his history on documents; he is very exact in describing the manners of all the American nations in contact with Cortez, but he does not say one word about Phallism, and certainly his authority is preferable to one which he himself has rejected, namely, that of the so-called companion of Cortez. And, moreover, if this journal be not the spurious production of a novel writer, this companion of Cortez was, no

doubt, an obscure man, since he left no signature to his book ; he was not one of the officers, who are all known by name, and his records are those of a clever man, perhaps, but of a superficial observer ; after all, he did not know the language, hence he must often have been mistaken by mere appearances. A Central African who would now visit Europe without knowing our history or our language would tell his countrymen upon his return home : "The Europeans adore and worship two pieces of wood crossed,"—for, deceived by what he would have seen in the churches, he would take for a God what is, in reality, a mere symbol. The Popol Vuh in no way whatever alludes to Phallism, so far as I recollect, and surely the sacred writings would if there had been a cause for it.

When Mr. Westropp adds something to Boudin, it is generally a mistake which he adds to those already known. He quotes a passage of Voltaire's writings as being an extract of *Cook's Journal*, whereas he should have given us *Cook's Journal* itself. Cook, after relating the religious ceremonies performed in the morning, which had absolutely nothing Phallic in them, says : "the day thus begun with acts of devotion, was concluded with those of lewdness (not in the temple, nor on the altar, as Voltaire says) exhibited by the natives by way of entertainment." That Voltaire should have written a lively tale about this in one of his philosophical "Romans" is not surprising, but that Mr. Westropp should have mistaken the humour and wit of Voltaire for Cook's relation—which, as everyone sees, conveys no idea of Phallism—is a proof of the author's indifference as to authorities. Leaving to others the task of criticising some other points of the paper, I regret to have to repeat that Mr. Westropp has not given us a single new fact nor a single good argument. A scientific paper should be something more than a string of assertions more or less discriminately collected. As regards Phallism, it seems to me that we certainly are not yet in a position to say whether it was a religion or a symbol, still less whether it was universal. It will require a large accumulation of facts, indeed, before we can arrive at anything like certainty on these points.

Dr. CHARNOCK said etymology was important in connection with the paper. Mr. Wake (citing Clemens Alexandrinus, who, by the bye, was not a first-rate authority) stated that the name Eve or Heva means a "female serpent." The derivative language was not given. The Hebrew name *Haváh* was synonymous with the Greek name *Zwḗ*, and was from a verb signifying "to live." Again, the author of the paper stated that *set* in Hebrew, as well as in Egyptian, means a pillar ; he identified *Seth* with the Phallic *Thoth* ; *set*, by change of the initial letter, becoming *Tet*, one of the names of Thoth. The Coptic word for a pillar is *shēbt*, not *set*. The name *Thoth* had been by some compared with *Teut*, the German deity, and with *Θεός*, *Zeus*, the latter two words being of Sanskrit origin. Perhaps the most reasonable derivation of the name of the Egyptian deity was from the Memphitic *lwt*, which in the Sahidic dialect is *Θlwt*, and is equivalent to *pater*. The derivation of Baal-tamar is still more important. Mr. Wake rendered it "Baal is a pillar." The primitive meaning of Baal

is lord, master ; but the word is often found in local names, where it signifies a place, sanctuary, town. No doubt *tamar* was used for a column, but that was not the primitive meaning of the word : and Baal-tamar, which was the appellation of a place mentioned in Judges, could have no other meaning than "place of palm trees," with which might be compared Bildulgerid in Barbary, which in Arabic signified "town of date trees."

The following gentlemen also took part in the discussion :—Mr. James Fergusson, Mr. Bouverie-Pusey, Mr. Robert Des Ruffières, Mr. Lewis, Mr. Charlesworth, Mr. John Jones, Mr. Moncure Conway, Mr. Walter Dendy, Rev. Mr. Buckle, Mr. McSweeney, Mr. Simpson, Mr. Avery, Mr. Rivington, and the Chairman.

The meeting then adjourned.

APRIL 19TH, 1870.

DR. BERTHOLD SEEMANN, V.P., IN THE CHAIR.

THE minutes of the previous meeting were confirmed.

John Colam, Esq., 105, Jermyn Street, St. James's ; and David Mitchell Henderson, Esq., 1, Carden Place, Aberdeen, and Old Calabar, West Africa, were elected Fellows. Dr. D. Lubach, of Kampen, Holland, was elected a Corresponding Member.

Mr. A. L. LEWIS exhibited two Australian Skulls, lately placed by him in the Society's Museum.

A paper, by Mr. ALFRED SANDERS, was read "On Mr. Darwin's Hypothesis of Pangenesis as applied to the Faculty of Memory." (The paper will appear in full in the *Journal of Anthropology*).

[Abstract.]

The first question to be asked was—Is thought a function of the brain ? The author answered it in the affirmative, and cited facts and appearances in physiology, anatomy, pathology, and physics in support of his opinion. Thought could not be considered as a product of the brain-cells any more than light could be produced by the cells of the retina, yet the brain-cells were necessary for the communication between the mind and the external and internal world, and were exhausted in the process of thinking and willing in the same manner as the cells of the retina were exhausted and required renewal in the process of seeing. Passing to the consideration of the faculty of memory, the author combated the theory of Mr. John Stuart Mill, that the mind is a series of feelings and nothing more, and that memory is an ultimate fact incapable of explanation. The remainder of the paper was devoted to the application of Mr. Darwin's hypothesis of Pangenesis, which the author maintained was capable of explaining the difficulty raised by Mr. Mill ; it being granted that the mental faculties depend upon the brain, and that the brain-cells give off self-propagating gemmules indefinitely, everything becomes plain. After

describing in detail the action of external impressions on the brain at different times in the life of an individual, some of the many conditions favourable or the reverse to the retention of such impressions, and the dormant and active states of the brain-cells, the author entered into a consideration of the growth of the supposed gemmules, their action at maturity, and their power of self-propagation.

Mr. KESTEVEN stated that he had undertaken to read Mr. Sanders' paper in his absence, simply for the reason that it contained many purely technical expressions, probably unintelligible to many present, which he, as a member of the medical profession, would be ready to explain, if requested so to do. He then remarked that, as he should have occasion to dissent entirely from the author's views, and to give the reasons for his difference of opinion, he thought it would be but right that he should, in the first place, put before his hearers a clear statement of what Darwin's hypothesis of Pangenesis is, that they might be able to judge how far it is possible to apply it to the explanation of the phenomena of memory. Mr. Kesteven then read the following extracts from Mr. Darwin's work* :—"Everyone would wish to explain to himself, even in an imperfect manner, how it is possible for a character possessed by some remote ancestor suddenly to reappear in the offspring; how the effects of increased or decreased use of a limb can be transmitted to the child; how the male sexual element can act, not solely on the ovule, but occasionally on the mother-form; how a limb can be reproduced on the exact line of amputation, with neither too much nor too little added; how the various modes of reproduction are connected, and so forth. I am aware that my view is merely a provisional hypothesis or speculation; but, until a better one be advanced, it may be serviceable by bringing together a multitude of facts which are at present left disconnected by any efficient cause. As Whewell, the historian of the inductive sciences, remarks:—'Hypotheses may often be of service to science, where they involve a certain portion of incompleteness, and even of error.' Under this point of view, I venture to advance the Hypothesis of Pangenesis, which implies that the whole organisation, in the sense of every atom or unit, reproduces itself" (p. 357). "The cells or units of the body are generally admitted by physiologists to be autonomous, like the buds on a tree, but in a less degree. I go one step further, and assume that they throw off reproductive gemmules. Thus, an animal does not, as a whole, generate its kind through the sole agency of the reproductive system, but each separate cell generates its kind. It has been often said by naturalists that each cell of a plant has the actual or potential capacity of reproducing the whole plant; but it has this power only in virtue of containing gemmules derived from every part. If our hypothesis be provisionally accepted, we must look at all forms of a sexual reproduction, whether occurring at maturity or as in the case of alternate generation during youth, as fundamentally the same, and dependent on the mutual aggregation and multiplication of the gemmules" (p. 403). This "provisional hypothesis" assumes that the

* *The Variation of Animals and Plants under Domestication.* By Charles Darwin, M.A., F.R.S., etc. Vol. II. 1868. Pp. 357 and 403.

development of each being "depends on the presence of gemmules thrown off at each period of life, and on their development at a corresponding period in union with preceding cells." This is wholly different from the hypothesis put forth by the author of the paper, which assumes the giving off of gemmules at irregular periods, in irregular numbers, and without further development, or organic relation, and union with other cells. There are, it is true, within the brain, as shown by the microscope, countless cells,* cell-nuclei, together with nerve-fibres and blood-vessels, but no trace of the alleged gemmules have been seen under the highest powers of the microscope. This is one reason why he must decline to adopt the conclusions of the author. Mr. Darwin, true philosopher as he is, with the caution of the philosophical naturalist, suggests a possible state of things to explain a known series of phenomena, but this is widely different from the transfer of what is thus modestly put forward to express a generally felt difficulty, to the confident and unhesitating explanation by a gratuitous assumption of one of the most obscure phenomena of mind. Mr. Kesteven further observed, as a reason for demurring to Mr. Sanders' explanation, that, in his opinion, it by no means so clearly and closely accounts for the phenomena of memory as that view which is now generally held by physiologists, viz., that there is truly a memory existing in every portion of the body. This has been well put by Dr. Maudsley in his lectures recently delivered before the College of Physicians. "In every nerve-cell there is memory, and not only so, but there is memory in every organic element of the body. The virus of small-pox or of syphilis makes its mark on the constitution for the rest of life. We may forget it, but it will not forget us, though, like the memory of an old man, it may fade and become faint with advancing age. The manner in which the scar of a cut in a child's finger is perpetuated, and grows as the body grows, evinces, as Mr. Paget has pointed out, that the organic element of the part remembers the change which it has suffered. Memory is the organic registration of the effects of impressions, the organisation of experience, and to recollect is to revive this experience—to call the organised residue into functional activity." All the phenomena of reflex nervous action show it. To mention one instance: a frog that has had its head cut off will, if any irritant substance be applied to its hind legs, make the ordinary efforts to wipe off the irritation. In injuries to the head, in fevers, and in delirium, as mentioned by the author, thought and memory are suspended and held in abeyance. But this is not all—in fevers, in delirium, in insanity, words and language have been known to have been recalled, although all memory of them had been lost for many years, or for nearly a whole life before. This revival of dormant mental impressions constitutes those mental states that have been somewhat metaphorically called "brain photographs." The speaker here related several cases of this kind, and again quoted Dr. Maudsley in support of his view. "In a brain that is not disorganised the organic registrations are never actually forgotten, but endure while

* Mr. Kesteven had on the table a microscope and numerous sections of brain, spinal cord, etc., to show their structure.

life lasts ; no wave of oblivion can efface their characters. Consciousness, it is true, may be impotent to recall them ; but a fever, a blow on the head, a poison in the blood, a dream, the agony of drowning, the hour of death, rending the veil between our present consciousness and these inscriptions, will sometimes call vividly back, in a momentary flash, much that seemed to have vanished from the mind for ever. In the deepest and most secret recesses of mind, there is nothing hidden from the individual self, or from others, which may not be thus sometimes accidentally revealed." Mr. Kesteven concluded by expressing his regret that Mr. Sanders was not present to defend his thesis, since, for the foregoing reasons, he could not but regard it as wholly wanting in proofs, inconsistent with known facts, and a misapplication of an hypothesis legitimately advanced by Mr. Darwin (provisionally only) to explain the known facts of reproduction.

The Rev. DUNBAR I. HEATH said that this paper contained a well-considered application of Darwin's theory of Pangenesis. Now, the first necessity would, of course, be to understand what this famous theory really is. When the theory itself is mastered, the application of it will more easily follow. The essence, then, of Pangenesis is that, instead of the embryo or ovum being the production of a gland called the ovarium, it is the production of the whole body. Every unit of the body produces its seed or gemmule. The genesis is not ovarian genesis it is pan-genesis, or the genesis of the whole. The conception that a gland should secrete out of human blood the seed of a human being is rude and rough ; and, moreover, it affords no explanation at all of the likeness of each being to its ancestors. We have been made familiar lately by Dr. Lionel Beale and others with some of the phenomena of protoplasmic units. They live, they grow, they die. Add, then, the further conception that they propagate, or throw off gemmules. These gemmules are free gemmules, circulating by thousands of millions in the blood. It will be said that if this be so they will be cast out of the body with other useless or used matter. But no matter is cast out except by its proper method. Carbonic acid by the lungs, perspiration by the skin, and so on. The refuge or landing stage for the gemmules is in the ovarium. Here the same reasons which constituted neighbouring protoplasmic units in any part of the body to be neighbours would cause the gemmules deduced from those units to be neighbours also. The muscle unit, the nerve unit, the bone unit of the finger, for example, send out their free gemmules, and muscle gemmules, nerve gemmules, and bone gemmules become neighbours in the ovarium, and are surrounded by albumen and fat, and thus form the germ. Ancestral gemmules, actually derived from the blood of ancestors, find their way into this resting place, and account for atavism or ancestral likenesses. Whatever may be thought of this theory, said Mr. Heath, it is at any rate the only one hitherto given to account at all for the facts. This property it has, in common with Darwin's other great theory of change of species by natural selection, no other theory worth speaking of exists to account for the phenomena. The application of this theory made in the paper to the phenomena of

memory is simple and comprehensible, and it, too, is alone in the field as the phenomena have never otherwise been accounted for.

Mr. GEORGE ST. CLAIR was convinced that Mr. Darwin in his theory expressed a great truth; but he thought that the author of the paper did not support the theory in the right sense.

The discussion was further sustained by Dr. Langdon Down, Mr. Dendy, Dr. Ellis, M. Robert Des Ruffières, and the Chairman.

In reply to the several speakers, Mr. KESTIVEN stated that he declined the challenge to discuss the nature of mind in the abstract; the author of the paper having narrowed its limits to the materialistic view, it would be beyond its scope to open up the metaphysical argument. To the statement that thought is a function of the brain, it had been objected that, if it were so, it should be subject to measurement in like manner as the blood and the air, with reference to the functions of the heart and lungs. He would remark that thought, as the function of the brain, was capable of measurement, inasmuch as the gradual manifestation of mental acts was traceable *pari passu* with the appearance of traces of a nervous system, and that with the greater development and complication of this in accordance with increasing complexity of surrounding conditions, the more distinct becomes the manifestation of mind, until the highest form is reached. That where no brain or its analogue exists, there is no thought, and that where brain is oppressed, as in disease, or by injury, thought is effaced or suspended. Therefore, in this sense of the word, thought is susceptible of measurement. He might, therefore, affirm that it was physiologically exact to say that thought is a function of the brain. Referring to the experiment with the decapitated frog, allusion was made to the statements recently made in the newspapers as to the mental phenomena said to have been exhibited by the heads of decapitated criminals. The answer was that, even if true, they were but instances of the reflex or involuntary movements to be seen in the lower forms of animal life: but it could not be said that such movements were signs of mind, or proofs of consciousness of pain. It should, however, be borne in mind that as Mr. G. H. Lewes had stated—other like experiments had altogether failed to produce any such results.

There can be no doubt that the influence of Mr. Darwin's writings and researches had been immense—indeed incalculable—but some limitation should be put to the appropriation of his authority by every wild theorist. The doctrine of "natural selection," for instance, is widely different from his provisional theory of "pangenesis," and is so treated by Mr. Darwin himself—the one he lays down as his deliberate conclusion from a vast array of facts; the other he hesitatingly puts forward as a suggestion that may, perhaps, solve a difficulty. Even in this hypothesis the gemmules are restricted to the reproduction of their kind—*i.e.* of the structures whence they emanate; they are not by Mr. Darwin charged with the function of giving rise to a train of phenomena wholly of another kind, as is the case in the application thereof by Mr. Sanders, an application which, after all, does but restate the abstruse nature of that endowment which we term memory.

Mr. GEORGE C. THOMPSON contributed the following note on "Con-sanguineous Marriages":

The question to be solved is—"Is there any occult malign influence in the fact of blood-relationship between parents, the effects of which exhibit themselves in the offspring in a variety of ways?" If the arguments, by which the theory of the occult influence are supported, are examined, they will, I think, be mostly found to come under one of the following types:—

1. A and B, being cousins, marry, and have so many diseased children.

2. In such and such an asylum n per cent. of the inmates are children of blood-relations, while marriages between such relations are (assumed to be) m per cent. of all marriages—(n , of course, being a much greater number than m).

Instances of the first type are calculated powerfully to affect the imagination, but can hardly be considered of much scientific value.

With regard to the second type, the blood-relationship of parents appears to be regarded in a very wide sense on the one hand, and on the other there appear to be no reliable means employed of ascertaining the value of m ; and there is nothing to shew that if relationships as distant were recognised in one case as in the other, there would be any discrepancy between m and n .

Some time ago the French prefects were directed to register the degree of relationship (where any existing) between persons marrying. I am not aware if the results have been published; but they could no doubt be obtained on application to the proper quarter. From a daily examination of the marriages announced in the *Times* for a period of about two months, I found that in just about one per cent. of the whole number the family names of bride and bridegroom were the same. To arrive at the percentage of cousin marriages, this figure (after making a small deduction to allow for those cases in which identity of name is fortuitous) must be multiplied by some number expressing the ratio of the whole number of a man's marriageable cousins to those of them bearing the same surname as himself. What this number may be is not very easy to calculate; but, taking the above data for what they are worth, there would appear nothing improbable in marriages of cousins, up to children of the same great-great-grandfather, being eight or ten per cent. of all marriages. This is a much higher figure than that assumed by Mr. Mitchell, who says the average of cousin marriages in Great Britain is probably not more than one in sixty or seventy (see vol. ii, *Memoirs Anthropological Society*). If, however, after every verification has been applied, the number n is still found to be greater than m —this does not necessarily prove the existence of the occult influence, as the phenomenon may be accounted for by the principle of inheritance. Suppose one hundred families, or tribes, two of which are tainted with a certain tendency (x) which, when inherited from both parents, becomes some specific evil, say (x^2). Suppose, further, that each tribe contains one hundred men, and that these marry—one within his own tribe, and the others into each of the ninety-nine stranger tribes.

Then, there will be in all ten thousand marriages, of which one hundred, or one per cent., will be between relations, so to speak (x^2) will occur in four instances—once in the marriage within each of the tainted tribes, and twice in the intermarriages between them—that is, *half* of the persons exhibiting (x^2) will be children of relations, while marriages between such relations are only one per cent. of the whole.

I believe the way to the solution of the problem lies in the collection and examination of crucial instances bearing upon the following points :—

1. When the defects commonly attributed to relationship of the parents are exhibited, are the germs of these defects traceable in the parents or their families?

2. When the medical pedigree of the parents is faultless, are the children sound and healthy?

3. When any particular excellence occurs in the parents' family, is it transmitted to the children in increased force?

Some of the members of the Society could probably supply materials for an investigation based on some such principles as I have indicated, and I trust the importance of the subject may lead to its being undertaken.

Dr. LANGDON DOWN said that, after an examination of five thousand persons with reference to the question of interbreeding, he had arrived at the conclusion that the practice was not only not necessarily injurious, but that, by methodical and judicious selection in the marriage of relations, an improved race of men might be obtained. He had examined closely into the antecedent histories of a large number of cases, in which the supposed cause of deterioration was consanguineous union of parents, but in nearly all he had been able to establish sufficient cause for the deterioration other than the relationship. Doubtless, where there was constitutional taint, the intermarriage of relations tended to intensify the evil in the offspring.

Capt. BLAIR cited in support of that view the case of a people on the Ganges, while other speakers adduced conflicting evidence.

The papers for the next meeting, May 3rd, were announced, and the meeting adjourned.

MAY 3RD, 1870.

DR. R. S. CHARNOCK, V.P., IN THE CHAIR.

THE minutes of the previous meeting were confirmed.

Moore A. Cuffe, Esq., LL.D., 9, Camden Crescent, Bath, was elected a Fellow.

The following list of presents was read, and the thanks of the meeting were voted to the respective donors ; viz.,

FOR THE LIBRARY.

From the SOCIETY.—Transactions of the Geological Society of Glasgow, vol. iii, part 2.

From the EDITOR.—Nature, to date.

From the SOCIETY.—Proceedings of the Royal Society, No. 118.

From the AUTHOR.—Insanity in Wiltshire. By Dr. Thurnam.

From the SOCIETY.—Proceedings of the Asiatic Society of Bengal, No. 2, 1870.

From the ASSOCIATION.—Journal of the East India Association, vol. iv, No. 1.

From the EDITOR.—The Food Journal.

From the EDITOR.—Scientific Opinion, to date.

From the SOCIETY.—Bulletin de la Société d'Anthropologie de Paris, vol. iv, f. 4, 1869.

FOR THE MUSEUM.

From A. L. LEWIS, Esq.—Two Aboriginal Australian Skulls.

Lieut.-Colonel W. ROSS KING, F.R.G.S., read a paper entitled "The Aboriginal Tribes of the Nilgiri Hills." (The paper appeared in full in the *Journal of Anthropology* for July 1870.)

[Abstract.]

The author, who was three years among the Nilgiri tribes, viz., the Khotas, Erulas, and Kurumbas, described in turn the characteristic features and peculiarities of each, with detailed information as to their very curious social customs, and religious rites and ideas ; showing the marked distinctions existing in every point between tribes occupying the same area, and in constant communication with each other ; pointing out the fact that each people retained its own language ; and their remarkable isolation from the surrounding enormous population of the plains. The striking similarity between the rites, practices, and monuments of the Todas and those of the ancient Celts of Britain was shewn ; a passing allusion was made to the evidences of an early western migration as traceable through intervening countries in the existence of similar rites and customs ; and the presence on the Nilgiri hills of Druidical circles, cromlechs, kistvaens, and tumuli, precisely similar to those so well-known in our own country, was described. While commenting on the analogies thus apparent between the ancient Celts, and some of the Hill Tribes, the author took occasion also to remark on their similarities in other respects to the Jews of old, to the Kaffirs, and to the ancient Romans, not as being likely to lead to any theory of origin in those quarters, but as possibly qualifying the re-

liance to be placed on every point of Celtic resemblance. In conclusion, the author, who illustrated his paper by the exhibition of several drawings, and of some interesting native ornaments, etc., summed up the various theories prevailing as to the probable origin of these tribes, of whose history we are still so ignorant, and recommended the subject to the Society as one worthy of their investigation.

The CHAIRMAN said the author of the paper spoke of the Nilgiri as "*otherwise* called the Blue Mountains of the Deccan." Now, the name itself was a Sanskrit compound signifying "Blue Mountains." Major King mentioned five hill tribes of the Nilgiri. Other writers gave the same number; but called two of these Buddagur and Gobata, which were perhaps the original forms of the names *Vaduca* and *Kohta*. It was stated that the Khotas eat dead cattle and putrid flesh, and that the Erulas sacrifice a cock to propitiate evil spirits. Many other peoples were fond of carrion, especially the gipsies, and it seemed to agree with them very well. The Greeks sacrificed cocks. Socrates offered up a cock to Æsculapius. Polyandry was formerly practised by the people of Taprobane, and by many African tribes mentioned by ancient writers, as Herodotus, Pomponius Mela, Pliny, Solinus, and Diodorus Siculus. As Dr. Seemann had remarked, the custom was also anciently in vogue in Great Britain. It was so stated by Cæsar. With respect to the Roman coins found in the Deccan, Alexander did not get farther than the Punjâb; Seleucus penetrated to the banks of the Ganges. The coins in question, no doubt, found their way into the Deccan by other means. Before the foundation of Alexandria, the trade with India was carried on by the Arabs of Malabar, with the Arabs of Hadramaut, and also with the Phœnicians, by way of the Persian Gulf. After the foundation of Alexandria, it was almost entirely in the hands of the Alexandrine merchants, who traded between Berenice, on the Red Sea, and Mangalore, on the Malabar Coast, to which port the wares of the East were brought by native traders; and it was probably by these means that the coins in question found their way into the Deccan, a term, by the bye, properly applicable to the whole of Hindûstan south of the Nerbudda. The migration of the Celts from Hindûstan to the West was mere conjecture, the statement not being supported by any evidence whatever. On the contrary, it was a matter of history that the Galli crossed into Asia Minor, where they were, by the Greeks, called Galati, and the country they inhabited Galatia. If the Celtic peoples had originated in India, they would have left vestiges in the geographical names, none of which could be traced to any of the Celtic languages. On the other hand, that they had, at some time or other, occupied nearly the whole of Europe, was proved by the fact, that most of the river names are of Celtic origin. The so called Druidical remains in India and elsewhere might be the work of any people. There was at present no evidence that the dolmen, etc., were erected by the Celts; and, indeed, it had not yet been satisfactorily proved what were the purposes for which they had been erected. It had been attempted to show that the Celtic dialects were derived from an oriental source; but it was doubtful whether any Celtic

words could be traced to the Asiatic, except through the Greek, Latin, and derivative languages.

Mr. Lewis, Mr. Bouverie-Pusey, Captain Blair, Dr. Seemann, and Mr. Dendy, also took part in the discussion.

The author then replied, and the meeting adjourned.

MAY 19TH, 1870.

(Held at St. James's Hall.)

DR. BEETHOLD SEEMANN, V.P., IN THE CHAIR.

THE minutes of the previous meeting having been read,

THE CHAIRMAN said: This is the first time in the annals of this Society that the Chairman is able to welcome at its meeting the fairer portions of mankind; and their presence is a proof that they do not think us quite as black as we have been painted. As a Society which has for its object the whole study of man, individually and collectively, we have had to deal with questions of great political and social importance; and, in discussing them, may have given pain where none was meant to be given. As a Society, we have no opinions whatsoever on any anthropological topic; but we claim absolute freedom of discussion of any subject that falls within our legitimate province. The subject brought forward to-night is, fortunately, one that will call forth no angry passions, no party feeling, no religious rancour. Music has been termed a universal art, and with good reason. We find it practised from the earliest ages to our own times, and from the equator to the poles; and as yet no nation has been met with that is an entire stranger to it. Music has also been called, but with much less good reason, a universal language. That every feeling which agitates the human heart, good or bad, can be expressed in music, or that we can concentrate greater intensity of feeling in a single musical note than in pages of writing, few will venture to dispute. But it is quite an open question whether it is a universal language, understood by all mankind alike. I make bold to doubt whether, even amongst the nations of Western Europe, intimately connected, as they are, by close and frequent intercourse, the music of the one is interpreted in the same sense by the others. By travelling eastwards we find that there is certainly a different language of music. Songs of joy, and even dance-accompaniments, are no longer, as with us, in the major keys, but always in the minor. Proceed still further eastwards, to the Indies, and you have to endure, in listening to the people's music, a monotony almost unbearable to European modes of thought. Continue your journey amongst the great Mongolian races, and the bulk of what you have to listen to is positively painful to your ear; and your greatest puzzle is how what is so painful to you should give positive pleasure to them. Again, cross over to America, and you find the aborigines uttering musical

sounds, no doubt full of meaning to them, but altogether unintelligible to us, and to our habits of thinking without any ending. Mr. Chorley, whose long study of the subject peculiarly qualifies him for the task, has undertaken to read to-night a paper on "Race in Music", which an eminent artist, Mr. Dannreuther, has kindly consented to illustrate. It has cost us no little persuasion to induce Mr. Chorley to consent to compress a subject so vast into so small a compass; but he *has* said *A*, and you shall now hear yourself when he says *B*.

Mr. HENRY F. CHORLEY then read the following paper, on

Race in Music.

Every one recollects Madame de Stael's famous request to some philosopher or metaphysician newly introduced to her:—"Tell me your system in ten words", said she. I have been reminded of her speech every hour since I have undertaken to handle the subject of national music within the compass of a single lecture. It is only an Ariel who can put a girdle round the earth in forty minutes. I trust that the difficulty will be taken into account by my audience; and that, if what I offer to them seem flimsy, the fault may be laid to inevitable circumstances, and not to flippant negligence on my part, when presenting myself to a society of such solidity and importance as that which I have the honour to address. I had already treated the subject within wider limits; having, some years ago, presented a course of lectures on it at the Royal Institution. But I have not referred to the literary materials I then gathered, nor am I about to offer you an abridgment of past discourses. My opinions remain unchanged, the subject having undergone no new developments in the interim. And I say this with some confidence, because, in the most valuable book recently published on the matter, by Herr Engel, a sound musician (whereas I am only an amateur), I find such a general coincidence of views with those I presented, as to encourage the opinion, that all persons who search honestly into the question must arrive at the same conclusions.

Having prepared my lectures for publication, I have purposely kept them back, with the view of enriching them with additions. But these present themselves sparingly, though the matter of my discourse is re-arranged. I shall offer few, if any, new illustrations; and, having examined more than three thousand tunes on the former occasion, I do not conceive that I could much amend the selection, as illustrating my meaning.

I assure you that I have been totally unable to satisfy myself in the fulfilment of this engagement. I do not say this to deprecate criticism or censure, because all pleadings of the kind are as paltry as the proceeding of the reduced Irish gentlewoman, who cried mutton-pies, in the streets of Dublin, in a soft voice, adding "I hope nobody hears me", but to explain that I have found the subject too impracticable in its width of scope for any hands to grasp within the short time allotted to me. What I offer, then, are fragments, not a completely cemented narrative—fancies, rather than theories. I shall be grateful if I can be listened to, with reference to what I have said.

Let me begin with an expression of due and deep gratitude, for the benefits which every student of such a subject as I am touching to-night must derive from the researches of thoroughly instructed men. But I cannot forbear from following this up by speculating on a point which, I fancy, has been too much overlooked, in respect to the authenticity of ancient records. Has it not been too largely taken for granted that the pictures in eastern, or southern, or northern tombs and temples are to be relied on as technically exact representations? The strings of pictured harps have been counted; and theories as to their scale and compass consequently stated, as if the above pictures were so many daguerrotypes. Now, I would submit that, if one accessory part of a picture be faithful, the other more principal features should be assumed so likewise. I would ask any one of my audience, by personal travel and anthropological research made more experienced than myself, to accredit the strange groups of figures in the tombs and in the temples of the East, or on the plates from the Chinese ovens. In one of the latter—I happen to be the happy possessor of the specimen—the picture is of a delicious creature, with a round face and no practicable feet, who is withheld from an elopement with as languidly delicious a gentleman as herself, by a father protruding from the upper window of a pagoda, who arrests her, by grasping her ankle—across a small canal-bridge half a mile off!—I do not believe in the literal truth of delineations of humanity, male or female, as derived from such productions; therefore, I do not accept the number of strings counted as canonical to the Egyptian harps, on the authority of incomplete painters. We know, from our own ancient missals, how every representation is traditional; let sincere hearts have urged careful hands ever so earnestly. The cyclamen flower—the *herba benedicta*—was indicated in their florid borders. But which, among the most experienced of botanists (I speak to the Chair), would venture to discourse botanically on the strength of such pictured records? Inasmuch as I have felt this difficulty—I have felt always the impossibility of theorising or systematising on the strength of the evidence furnished by idealising recorders. Literal truth in the notation of Art is a possession which the world has gained but recently—it may be, at the expense of blind faith and imagination. We may have no more such pictures as Albert Durer and Memling painted—where the expression of the faces is so immortally admirable—and yet in which the great mystery of the Crucifixion would be represented as passing under the shelter of a grim Gothic town, with its fortresses, and drawbridges, and balconies, and men in quaint armour. But who, for the sake of Durer's and Memling's beautiful types, and noble heads, and muscular figures, would accept the record as historical? I venture to apply this argument to the preposterous harps played by men, almost as preposterously clad, on the walls of the Egyptian buildings. I will go to the hazardous length of disbelieving in the small lyres handled so gracefully by the undraped figures who deck the Etruscan vases. I do not conceive that the ancients sat in windy porticos, unclad, and preluding on tortoise-shells having only a few strings; therefore, I question the authority of the musical records left in the tombs and temples of the Nile. And I am bolder

than I might otherwise have been to express incredulity, since I have seen that such fancies have been perpetuated in our own day as symbolical myths ;—and by no artist more deservedly distinguished than my valued and admired friend, Mr. Leighton, in his picture of “Orpheus”. The very thing which gives to imaginative art so much of its poetry, at the expense of its matter-of-fact evidence, is its idealisation of literal truth. I know that by what I say I make myself liable to be charged with cynicism and heresy ; but it is better to bear the blame, than to withhold sincere and deliberate conviction on a subject of some importance.

The difficulty of arriving at anything approaching a clear knowledge of what national music really is, will be found by the diligent student far greater than he may have expected at the outset of his researches. Judging from modern experience, notation, which is comparatively a modern art, cannot be accepted with too great caution. We have seen in our own times a press error, now distinctly proved as such, in Beethoven's C-minor *Symphony*, wrangled for and defended as a stroke of genius by the fanatical admirers of a great master. And, if a poet can unconsciously allow his poem to go forth to the world thus debased by an excrescence, how are we to trust the correctness of the larger number of collectors from whom our knowledge of national music has been principally derived ?—many of them amateurs, little used to the exercise of those hard, uncompromising faculties which go to the substantiation of evidence ; many of them ladies not much in the habit of notation, having more imagination than judicial accuracy, and too willing to forget that, among singers and players not scientifically cultivated, vagaries and changes of the moment born, or referable to the weakness or courage of the executant—are of constant and perplexing recurrence.

Then, by the simple variation of *tempo*, implying some changes in accentuation, a melody can be so entirely transformed as to lose its original character. Many a gentlewoman has sung Scottish songs all her life, and has not adverted to the fact that the battle-tune, “Scots wha hae”, and the pathetic death-bed song, “The Land of the leal”, are identical, save in the manner of performance and the words with which they are mated. I have been present when, for a wager, an impertinent young person played the delicious pastoral melody from the *Messiah*, “He shall feed his flock”, as the tune to “La Poule”, the third figure in the first set of quadrilles which was imported from France. The irreverent proceeding passed without detection, and yet there was hardly one in ten of the dancers who would not have scouted the idea of unacquaintance with Handel's sacred Oratorio. The extent to which the composers have availed themselves of this notorious fact—whether consciously or unconsciously matters little—could hardly be overstated.

Further intercourse, and with it the suggestions of cultivated and civilised travellers, can hardly fail, more or less, to tell upon even the most uninformed and uninstructed ears, and to present itself in the form of unconscious repetition, if not plagiarism. When the band of the Pasha of Egypt exhibited itself at the International Exhibition in

London, it was curious to detect how many phrases and fragments from the most common-place and modern French and English tunes were to be heard, with barbarous condiments (if the figure may be allowed) sufficient to deceive all save those listening for a purpose, and with some powers of recollection and comparison. So, again, in a very large collection of negro tunes which I examined some years ago, I was struck by phrases of such known melodies as "The Blue Bells of Scotland" and "Cherry Ripe", recurring so clearly, as to render the theory of coincidences visionary and strained beyond the bounds of reasonable faith. The imitative powers of the negro, I believe, are owned to be very great; and, if the voice of the planter's wife singing could be heard by the servants in the house or listening on the verandah, what so natural as that the melody should be somehow represented and transmitted from mouth to mouth, from pipe to pipe—transmitted with a difference?

At the very moment when I was writing this paragraph, my pen was stopped in obedience to the noisy proceedings of a troop of those minstrels so dear to Professor Babbage; a German brass band—not worse than such blatant orchestras usually are. One of the tunes, which at once chafed me and compelled me to listen, was for a moment strange, yet not absolutely unknown. I had to think twice before I became aware that it was a free arrangement of Meyerbeer's Coronation March in *Le Prophète*, containing one of the most explicitly defined melodies and rhythms that could be found in the library of music, ancient or modern. The amount of curious novelty and distortion caused by the audacious and illicit proceeding would have driven the composer—that most sensitive and punctilious of men when his own music was in question—into a frenzy of irritation and indignation.

If what I have said has any root in truth or any thread of sequence, it will prepare you for the statement of my impression, that genuine, fresh, original national music exists in much smaller quantity than has been heretofore believed; and that its character has been the most marked wherever intercourse has been the most sparing and restricted.

I could devote a discourse to this one subject alone, which, I think, has never been sufficiently explored and wrought out; but can here merely offer my strong and fixed conviction of its very great importance, and recommend it earnestly to the study of every one desiring to examine the origin of cultivated music in its national sources.

Service, as distinct from sacred music, comes within the sphere of this discourse—the first belonging to a direct devotional obedience; the second illustrating the moods of holy meditation—even as a Hymn to be presented as part of a rite is essentially set apart from an epic, such as Milton's *Paradise Lost*; even as a Mass, with its priests at the altar and its scenic decorations, differs in its incitements and the impressions it produces from such sublime poems as Handel's *Messiah* and *Israel*.

The distinction betwixt what is mystical and congregational, betwixt what is represented and what is partaken of in sacred and service music, cannot be too clearly borne in mind, let the religious be-

lief be what it may. The chorus in the orchestra of a Roman Catholic church and the hymn of pilgrims as they wend their way across the Appennines (so picturesquely imitated by M. Berlioz) or cluster in Danube boats which are to convey them to the superb palace monasteries of Austria, have characters and functions entirely different in their qualities. I confess that even such a highly wrought and scenic exhibition, as one finds prepared in the cathedral at Cologne, or in St. Stephen's at Vienna—that dark church, where the candles and the films and clouds of incense before the silver altar make up a picture at once so gorgeous and dreamy—is to me less directly moving than the simpler music, whether unisonal or in parts, which I have heard in Lutheran and Calvinistic churches, those in Holland being especially remembered,—so hearty without vulgarity; or that coarse exaggeration which did—but does no longer—offend in the congregational psalmody of our own dissenting chapels. I have a particular recollection of a Sunday morning's service in the great and lofty church at Delft, the gorgeously decorated organ of which is almost an edifice in itself. The concord and consent of the singers' voices was like "the sound of many waters", giving an impression of heartiness in prayer and praise never to be forgotten.

How this Protestant element of national worship could be turned to account in formal and scientific musical works may be seen in the oratorios and services of Sebastian Bach. In these, whenever a psalm tune, or *Corale* (as it is now foolishly fashionable to call a religious melody), occurred, the congregation was expected, and accustomed, to swell the strain, and hence—to digress for one moment—has resulted a loss of effect when these noble works have been presented in this country as sacred concert music—such support and filling up being, of course, out of the question under changed circumstances;—so that the consequence is a weariness and disappointment not to be felt in Handel's mighty oratorios, exclusively calculated for orchestra and chorus, in which the audience take the part of sympathy only, not of participation.

Among what is presumed to be the most ancient service music in existence is that of the Synagogue; but, so far as I have been able to examine it or to form any conjecture, the result is one of confusion and inconsistency. Many of the Hebrew chants are in the most irregular form of recitative, getting little beyond the wildest of wild cries, which, I have ventured to think, owe their existence to accident.

No doubt, the earliest specimens on record—due caution being repeated against any implicit trust in chronology as regards music—are these chants. When King David danced before the Ark, it is hard to conceive in what measures he could have moved so as to keep time to such strains of doleful wailing, as these sequences of sound must appear to modern ears. The primitive chant is merely an instinctive device to give vocal declamation variety and animation in delivering the spoken prayer or message, and rest to the voice of the priest as well as to the ears of the people. There is, possibly, no exercise of human ingenuity so difficult as the maintenance of a monotone. Extempore preachers, who labour under the extreme difficulty

of incomplete preparation, and must think of matter rather than manner, are apt to sing.

Those who are interested to follow the subject further cannot do better than examine the very interesting collection made by Mr. Aguilar and the Rev. Rabbi de Sola of the tunes of the Spanish and Portuguese Hebrews. But, in the midst of these wandering airs, which can only leave the most vague impressions possible, we are confronted by specimens astounding in their symmetry and the absence of that crudity which is largely distinctive of early music. Here, to illustrate the latter, is a Hebrew chant, which, I presume, could not have been accompanied by "trumpets also, and shawms", so irregular is it in form. And yet, from the very same collection, is derived a hymn, reputed to be the song of triumph on the passage of the Red Sea by the chosen people. You will at once perceive that it bears no trace of antiquity in interval or irregularity of rhythm.

So noble a tune as this—one so complete in its conformity with every modern requisition and discovery in the matter of melody—calls on a stretch of faith to which I confess myself unequal. It is hardly overpassed in musical effect by that noblest of strains of sacred triumph in a miracle—I mean the song of Miriam, with chorus, that closes Handel's *Israel*, "Sing ye unto the Lord for he hath triumphed gloriously."

To return. I find a trace of this noble melody in the "Song of the Three Magi", which is in Herr Engel's collection (p. 279), and which is still popular, he assures us, at Epiphany in certain parts of Germany.

The tunes of association have a large and distinct place in national music; but this, again, has its restrictions and exemptions. For instance, neither France nor Italy have anything to show analogous to the guild and student songs of Germany. The Madrigal belongs to the south, though it early took a firm root in this land of ours. But the Madrigal is a richly elaborate composition, fitted for the Pampineas and Fiordelisas whom Boccaccio assembled in his *Decameron* garden, rather than such a piece of artless and spontaneous song as one finds put forth by the German guilds, whether the same be of artificers, or of students, or of soldiers. The heartiness of these—be their composition or their execution referred to—has no peer in music. It would be hard, even in the Tarantella of burning Southern Italy, to find a more vivid and explicit expression of nationality in music. The German men have not pleasing voices, so much as strenuous and strong ones;—and thus, as trained chorus singers, they cannot compare with those of our own Northern England, such as are to be heard in all their splendour at the provincial festivals, such as used to be imported to London in coach-loads, for the use of Ancient Concerts and Lent oratorios held in theatres, long before railways were thought of, long before such admirable institutions as the Sacred Harmonic Society and other choral societies adorned the metropolis. But the German songs are, in their force and simplicity and the cordiality of their execution, resistless. Some are of Swabian and Styrian origin; these mostly partaking of the nature of the dance, in triple

measure. Some are the settings of spirit-stirring lyrics by such poets as Körner, Schiller, and Goethe,—by composers of no less mark than Beethoven—(best of all) Weber,—and Mendelssohn. I wish I had a *verein* at my command, such as I have heard in the pretty wood of Schwanheim, near Frankfort, to offer you a specimen; though it is true that the concord of voices might be rather too forcibly disturbing in this our locality. And heard with translated words the effect is starved and strange. In years past, I bestowed some labour in trying to render equivalents such as could be sung without alteration to the rhythm of the music, and with reference to the preservation of the ideas. The result was generally unsatisfactory. “To each his own.” I can never bear to hear Handel’s sacred oratorios, written on our glorious Biblical text, or his *Sampson*, or his *Acis*, sung in German. As little can I admire a minuet danced, by what some old Frenchman described as “English awkwardness, on two left legs.” As little can I endure an Italian perversion of *Fidelio* or *Der Freischütz*. Our home glees are pleasant, when they are not too somnolently warbled without reference to tone, not to tune; but, in no respect do they offer an equivalent for the strong, stirring, muscular songs of the German “table books.”

It must not be lost sight of that Music in no respect has kept pace or proportion with art and manufacture. Look at the exquisite tissues of India, look at the perfect colours and pellucid texture of Chinese porcelain, look at the forms of the bronze vases from Japan, in harmony and elegance rivalling the best specimens from the Etruscan tombs—then listen to the hideous cacophony accepted by the orientals for sweet sounds, and the disproportion in all its amazing magnitude must suggest itself, to the entire confusion of all those pleasing theorists who have legislated on the plea of the connection of the arts. It is idle to say that Music is a thing of mere fashion and convention. If the eye can comprehend the gorgeous and harmonious mixtures of ancient colour, the beauty of ancient form, to which attention has been drawn, the ear is surely as sensible to the sweetness of a chain of harmonious tones and a monotonous screech of hideous voices. In districts where civilisation has worn the simplest forms, melody has developed itself of a wild purity and sweetness exceeded at no later period of sophisticated manners, or intellectual culture, or luxurious appliances. The primitive melodies of the far North, and of our own three kingdoms, many of which appear to be of great antiquity, will last as long as music shall last; whereas the ear turns away with repugnance from most of the music which delights the Orientals. Where they show any sense for Music, it is confined to rhythm, and seldom includes beauty of sound or symmetry of form.

One or two exceptions, however, present themselves, and among these is the stately Chinese hymn, in honour of the ancestors, which Herr Engel assures us was, or is, in high request on occasions and anniversaries when the dead are remembered. I presume it to have been unisonal, since, from its being in the pentatonic scale, it would be difficult to imagine it harmonised. There are three strophes, divided by an interval of service and rest.

The most beautiful and symmetrical national airs that we possess are those that come from the North. Norway, Denmark, Sweden, but, above all, Russia, have yielded some admirable tunes to the world. That there is a rude and original taste for art among these people, till within a comparatively recent period little leavened by intercourse with travellers from the South, may be seen in the curious Norwegian cups festooned with coins; in the Russian attempts at *niello* in plates and mosaics, at least as suggestive of genius as the Italian pictures by Cimabue and Margaritone, in which, nevertheless, the art of painting was revived among a people highly civilised and rich in monuments of a glorious and noble past. How far these may, or may not, be of Byzantine origin, may be left to persons more deeply versed in those branches of art than myself to decide. But, at all events, seeing that no Byzantine melodies, as we understand the word, have come down to us, whereas we have a host of excellent tunes to be sung and to be danced from regions to which travellers rarely penetrated, and, moreover, owning no resemblance whatever to the national airs of other countries, it may be deduced, I think, that the Northerners take a high, I may say the very highest, place among the peoples of the earth to whom melody was known long ago. With little exception, it may be noted that these Northern airs are in minor keys—it might be fancied an expression of, rather than a protest against, the gloom of the climate and scenery—were not the same a characteristic largely marking early national music be the zone torrid or arctic. This might be thought at complete variance with brisk dancing, if not to the slow voluptuous attitudinising in which the Orientals delight.

Among the most remarkable specimens of national music that we possess, are the tunes of Servia and of Wallachia—of the countries where the East and West may be said to have met, and, by meeting, the one to have influenced the other without any annulling of individuality. There is a curious gipsy *twang* about them, which may at once imply cause and effect: an imperfect tradition carried hither and thither on imperfect instruments, but with, also, a tone, and a twirl, and a thrill in them, that have possibly fortuitously got together and, by their union, produced a type and a style of art which is neither Eastern nor Western.

There is one form of national music not to be overlooked, by its peculiar character brought more intimately within the verge of mechanical science than any other which could be possibly named—the music from “high places”—to use the scriptural phrase—from spires and steeples: the music of chimes and bells. The exceeding picturesqueness of this must have struck on the ear and heart of many a traveller, who, nevertheless, may have not cared, or been able, to analyse his dream or his impression. The *carillons* of the Low Countries (or the *cornichons*, as I once heard them called by an English travelling gentlewoman, who published a book), have a poetry and a humour of their own, not to be replaced, or equalled, even by the shepherd’s horn on the mountains, or (what I am barbarous enough to enjoy when it is set in its proper framework) the wild, semi-savage music of the bag-pipe, coming across some heathery slope, and out-

rivalling, perhaps methodising, the cries of wild birds—always, as Collins says, “by distance made more sweet.”

Chimes and bells seem to me eminently to be the produce of flat districts, originally calculated, besides notation of the hour, to convey caution and alarm, in the event of any trouble, to willing helpers, were the same inundations, or invasion, or fire. I cannot but recal, while on the subject, that pathetic and spirited ballad-poem by Miss Ingelow, “The High Tide in Lincolnshire”, where the summons from the belfry is so picturesquely employed; and the fantastic lyric by Victor Hugo, “Lines written on a Flemish Window”, in which there is a most charming echo of the music from the church towers. Chimes and bells, then, are rather materials intended for mechanical uses than for the artist; but that these materials have been turned into the service of music, the history of bell-ringing and clock-making will sufficiently show. Should any one care to follow this matter further, I venture to refer him to a small but interesting volume by the Rev. Mr. Lukis, published by Mr. Parker in 1857.

Apart from all associations connected with a call to worship, such as strike the ear pleasantly and impressively in the stillness of a calm English Sabbath morning, the management of a chime of bells was an art and a science of variety—by the old phrase called permutation—possibly now dying out in England, but formerly in great request. I have no doubt that, by the music of the belfries, so limited and yet so changing, many effects have been suggested to musical composers. One frank and charming specimen of these is to be found in the chorus, “Welcome, mighty kings”, in the *Saul* of Handel. On that greatest of musical painters nothing was lost—whether it was the chirping of birds, so exquisitely presented in his *Acis and Galatea*; or the giant stride of Polyphemus in the same serenata; or the plagues and prodigies of *Israel*, describing the fire mingled with hail, the darkness, and the cleaving of the Red Sea.—That Handel was obviously sensitive to the sentiment of this out-of-door music is again to be traced in his chime of the “merry bells” from Milton’s *L’Allegro*.

It was part of the duties of organists in the Low Countries in days gone by to perform on the chimes—*carillons*—which, besides their mechanical use as marking the time from the belfry, were connected with a rude key-board, enabling the player to execute inventive and not mechanical music. That most intelligent of English artistic travellers, on whom nothing was lost—I mean Dr. Burney—gives among his other recollections a noticeable account of the performance of a blind Dutch organist at Amsterdam, who had to drive down every key that was to sound by a force of fist which would have made him formidable as a pugilist. The physical fatigue of this exercise must have been tremendous, and the whole display had in it something gross and barbaric, the practice of which was doomed to die out. I am unable to state whether there are still *carillonneurs* in the country of Paul Potter and Rembrandt and Van der Helst. The church organs there, excellent for their grandeur of full sound, in their exceeding difficulty of touch, offer hardships to be overcome with which the most muscular of muscular Christians (to use Mr. Kingsley’s phrase) need not disdain to grapple.

It may be observed that the sense of musical rhythm seems as distinctly distributed among different nations as varieties of physiognomy. To give an instance ;—the Peninsular melodies are only characteristic when they are in triple time, such as the Fandango, the Bolero, the Zapateado, the Tirana ; the airs in common time being essentially mawkish and savourless, owing such individuality as they have to the sleepy voluptuous delivery of the executant. On the other hand, the humour of France lies directly in the direction of squared music, towards what is piquant as distinct from what is undulating. There is nothing to compare with a French Bourrée, which has given the name to a particular class of measure, or to a Galop, as Auber and Adam have used the measure ; but, as players and composers of waltzes, our neighbours are entirely distanced, when at their best, by the admirable orchestras and writers of Southern Germany. I do not know a waltz of French origin which can match with those of Strauss, and Lanner, and Labitsky, unless it be the excellent dance in the fair scene of M. Gounod's *Faust* ; and this may be, perhaps, because M. Gounod is the least French in his style of any of the popular composers of his country whom I could name. That climate, race, and nationality in these points bear with an influence on our art which is almost ineradicable I have long seen reason to think. How else is the apparently capricious distribution of voices to be accounted for ?—how, that high *soprani* and high tenors are so common in France, and, curiously deep basses ?—whereas, there is not a *contralto* of the country whom I can remember with the slightest pleasure. And, indeed, the voice was generally avoided by composers for France until that exceptional, and almost unique, woman of genius, seconded by culture, Madame Pauline Viardot, appeared, to show the world what can be done by the highest inspiration of art, independent of natural graces and gifts. For her sake, Meyerbeer threw down the Chinese wall of limitation and prejudice, and gave scope, in *Le Prophète*, to her extraordinary accomplishments and powers of achievement. How, some years later, she yet more distinctly justified and expressed these by her magnificent revival of Gluck's *Orfeo*, I doubt not that some of my hearers, conversant with Paris, must remember. I cannot even recur to it without that strong emotion which is at once so rare and so precious. The Medici statues, by Michael Angelo, in the chapel at Florence ; Titian's "St. Peter Martyr" at Venice, now destroyed—are not more vividly before me, as having left an indelible print on the mind, than Pasta's *Medea*, or the curse of Lablache in *Otello*, or the two splendid impersonations by Malibran's sister ; the *presence* of which (I may say so without grimace) has beguiled me for a moment beyond the strict limits of my discourse.

In treating the question of national music here, I may remark, without wandering too far out of my record, on a phenomenon which is of universal recurrence—the demarcations not merely of race, but of sex too, in the art, be its stages of culture or civilisation ever so primitive, ever so mature. The absence of musical inventive genius in the fairer half of creation is most curiously inexplicable, and

another signal illustration of the contradictions and inconsistencies which mark Music in all its conditions, in all its stages, beyond any other art. No historical or critical observer would be in his senses were he not cordially to admit the power, and the persistence, and the originality, which women have shown in pursuits of far greater difficulty. Illustrations rise up by the hundred. It has been said, and never contradicted, that the spire of Strasburg Cathedral was devised by Sabina, the daughter of the architect Erwin von Steinbach. A similar legend, by the way, belongs to the daring caprice of the spire of our own Dunstan's-in-the-East, which is ascribed to Wren's daughter. There have been female sculptors, such as Properzia Rossi, the Italian, who could hold their own, even in the great age of the art ; and, in our own day, the gentle and gracious Princess Marie of Orleans, who imagined, and for the most part executed, her statue of Joan of Arc, one of the noblest efforts of modern sculpture. It is superfluous almost to cite so brilliant an example of power, in a branch of painting which might have been fancied inaccessible to female audacity, as Mademoiselle Rosa Bonheur. And to change, without losing sight of, the theme of sex, I may name the recognised services done to Science by the admirable and venerable Mrs. Somerville. Setting aside such stately dames as Mdle. de Soudéri and our own astounding Margaret, Duchess of Newcastle, we reach a gentle poetess, the Countess of Winchelsea (as Wordsworth finely pointed out) one of the first minute observers of Nature, who helped to found the school in which such artists as himself, and Crabbe, and, to-day, a hundred more—let me bow in passing to our laureate—have proved themselves so exquisitely proficient. Then Clara Reeve and Anne Radcliffe may be said to have given the impetus to supernatural romance in England, since Horace Walpole's *Castle of Otranto* was, at best, a literary luxury. Harriet Lee, a schoolmistress at Bath, whose *Canterbury Tales*, in their *Krutzner*, presented the world with one real invention, which Byron did not disdain to work out for tragic drama, as his *Werner* attests. Miss Edgeworth, suggested the national tale to our modern Shakespeare, Walter Scott (according to the author's own confession). And I must further name with emphasis, and, I hope, discretion, one of the most delicate, complete, and original geniuses of any time. I mean Miss Austen ; the canonisation of whose domestic novels is one of the most marking and encouraging facts of England's justice in literary taste. There was a gentle, quiet Scottish lady, born in a manse, Joanna Baillie, who yet could write tragedies which Mrs. Siddons and John Kemble did not disdain to adopt ;—and a still greater female dramatist, Mary Russell Mitford, whose four successful plays will bear comparison with any contemporary production. Then a word is due to a lyrist, who founded a school both here and in America, Felicia Hemans. Yet all the above said, done, and conceded, what have women—to disdain the footman's designation of “the ladies”—done in musical creation ?—Virtually nothing.

As dramatic interpreters in the hampered and conventional world of acted Drama, sung Opera, and declaimed Oratorio, they have dis-

tanced the best of the best men. We have nothing "to score" on our side, against such gifted persons as, among actors, Siddons, Jordan, Mars, the incomparable, gracious, and versatile Rachel; among singers, as Mara, Catalani, Sontag, Pasta, Grisi, Lind, and last, not least—nay, rather greatest, inasmuch as her genius enabled her to bring a rebellious nature into subjection—the yet greater sister of the great Malibran, Madame Pauline Viardot.

And yet women, so unsurpassable as interpreters, have been habitually weak as composers. The Electress of Saxony wrote operas, which she inflicted on Burney; Madame de Montgeroult, Concertos; Madame Fanny Hensel (Mendelssohn's sister, and, it may be said, in some respects, his other self), music in the most ambitious and severe forms. I could name scores besides; some of whom are, happily for us, quickening and adorning our society at the time being; but I cannot, after much comparison and retrospect, recall one single exception such as proves a rule. There have been female violinists, female pianists, female organists even—I will name one of these whom some of my hearers may recollect, Miss Sterling—who have justly gained distinction without any Salique concessions made by the haughtiness of man; but, as originating new thoughts, new forms, new phrases of melody, new facts of harmony, I cannot recollect a solitary female composer. The more I have reflected on this fact, the more strange, yet the more distinct, has it risen up before me.

It requires some nerve to say this, with the "emancipation movement" impending. That it may yield us anything equivalent to a Bach, a Handel, a Beethoven, a Mozart, a Weber, a Rossini, is what every loyal lover of art, and despiser of old cant sarcasms and class demarcations, will join me in desiring.

It may doubtless seem to some among my hearers a strange, perhaps a heartless, neglect of matters belonging to our own hearths and homes, that I have not devoted space to a branch of my subject so rich and suggestive as the music of our own country, including Wales, Ireland, and Scotland. I will remind them of a chapter in the *Natural History of Iceland*, by Olaus Magnus, at which every one has laughed. The chapter is "Of Snakes in Iceland", and runs thus: "Snakes in Iceland. There be none." Precisely the converse is to be said of the national music of these islands. It is a subject not to be packed away into a solitary paragraph by reason of its exceeding diversity and richness of material—as the collections of Mr. William Chappell, Mr. Graham, Mr. Daune's republication of the Skene Manuscript, and (perhaps, best and most curious of all) Mr. Bunting's work, attest. And it is too well known to many of you, in its particulars and details, for that slight manner of treating it which presents an outline of things further remote,—to be admissible—I would not insult you, or stultify myself, by bringing in a few common-places at the close of a discourse, which, I am aware, may have been found too long. And I think you may see fair reason for my plea. If, however, what I have collected and just presented seem to you to have any special interest or value in reference to the objects of this society, and you

care, at some future period, to allow me a hearing, I will attempt some notice and remarks on the national music of our own country.

The paper was illustrated by Mr. Dannreuther on the pianoforte.

The CHAIRMAN proposed, and Mr. DENDY seconded, a vote of thanks to Mr. Chorley, which was put and carried by acclamation.

Mr. CHORLEY returned thanks, and the meeting separated.

MAY 31ST, 1870.

DR. R. S. CHARNOCK, V.P., IN THE CHAIR.

THE minutes were read and confirmed.

George Thorne Ricketts, Esq., H. M. Consul Manilla, was elected a Fellow.

The presents were announced as follows, and thanks were voted to the donors.

FOR THE LIBRARY.

From the EDITOR.—*Nature* (to date).

From the SOCIETY.—*Journal of the Royal Geographical Society*, vol. xxxix.

From Dr. B. SEEMANN.—Seven Photographs of Antiquities of Yucatan.

From E. T. STEVENS, Esq.—*Flint Chips: a Guide to Prehistoric Archæology*.

From Dr. A. WEISBACH.—*Die Schädelform der Rumänen*.

From the INSTITUTION.—*Journal of the Royal Institution of Cornwall*, No. 9, 1870.

From the INSTITUTE.—*The Canadian Journal*, vol. xii, No. 5.

From the AUTHOR.—*A Handbook of Phrenology*. By Dr. C. Donovan.

From the AUTHORS.—*Zeitschrift für Ethnologie*, 1870, Heft ii. A. Bastian and R. Hartmann.

From Dr. E. T. R. TENISON.—*The British Medical Journal*, May 1869.

From the AUTHOR.—*Patronymica Cornu-Britannica*. By Dr. R. S. Charnock.

From the SOCIETY.—*Proceedings of the Society of Antiquaries*, London, vol. iv, No. 7.

From the SOCIETY.—*Proceedings of the Asiatic Society of Bengal*, No. 3, 1870. Journal ditto, Part ii, No. 1.

From N. TRÜBNER, Esq.—*The Lifted and Subsided Rocks of America*. By G. Catlin, Esq.

FOR THE MUSEUM.

From Dr. DELGADO JUGO.—Two Basque skulls.

From the Rev. J. G. WOOD.—Two Tonga arrows; one cross-bow bolt, China; one spur, Patagonia, one spur, Niger; bolas, Patagonia; girth. Patagonia; lasso, Mexico; a robe, New Zealand.

A communication was read from Dr. W. M. Skues relative to a Hebrew Roll of the Levitical Law which he had presented to the Society's library.

A paper by Dr. SHORTT was read on *The Armenians of Southern India*. (The paper appears in the *Journal of Anthropology* for October.)

[Abstract.]

Early in the sixteenth century a few Armenians found their way into Southern India with the countenance and support of the Honourable East India Company, and under a contract with the company equal privileges with British subjects were conceded to the Armenians. The company further extended favours to them when they reached, in any town, the number of forty, by the provision of a place of worship and by annual grants of money. For a long time after their arrival in India they avoided mingling with other people, but latterly that rule has been broken through and alliances in marriage with Europeans are not unfrequent. The Armenians have diminished in numbers; and, it is said, are daily decreasing in influence. The chief causes of their approaching extinction in India appear to be the vice of intemperance, the taint of disease, and the contact with the Europeans, more especially the English. The physical and moral characteristics were described; in the former it was stated that the Armenians are strongly allied to the Jewish race, from which they claim descent.

The CHAIRMAN, referring to the uniformity of Armenian character, etc., wherever met with, said, according to the author of the paper, the priests entered the married state; the people sometimes intermarried with the English; they were addicted to intemperance; and, with regard to stature, that they were short and stout. Now, the Armenians of Transylvania were generally somewhat stout, and rather above the middle size; they were temperate; they intermarried with the Magyars, but not with the Saxons; and the priests were permitted to marry, but did not do so. According to Dr. Shortt, the first Armenians found their way into Southern India early in the sixteenth century; and the Armenians, like the Jews, are scattered over the earth. But there was this distinction, that the Armenian kingdom was broken up long before the sixteenth century, and no doubt most of the Armenians of India were colonists; indeed, the Armenians were generally very good colonists. According to Dr. Shortt, they profess to be descendants of Haïk, grandson of Japhet; and after Aram, a descendant of Japhet, they called their country Armenia, and themselves Armenians. But Genesis did not mention Haïk as a grandson of Japhet, and Aram was a descendant of Shem, and not of Japhet. The Armenians also derived their name, and that of their country, from Togarmah, grandson of Japhet; another grandson of Japhet was named Ashkenaz, and the latter was a geographical name in Armenia. The best etymology of the name Armenia was from *Har-Minna*, "the mountainous part of Minni"; the Minni of Jeremiah (a district placed between Ararat and Ashkenaz); the *Mervas* of Nicholas of Damascus.

The following paper by JOHN STIRLING, Esq., M.A., F.A.S.L., was read, on *The Races of Morocco*.

The inhabitants of that portion of Barbary known as Morocco are usually called Moors. But this name, of course, is no more descrip-

tive of race than the term *English* is, when used to denote, as it often is, the natives of Great Britain and Ireland, or even the "rock scorpions" of Gibraltar.

The races of Morocco may be arranged under the following names: Berbers, Al Ryf (the Ryf-men), Arabs, Bohāra troops, and other negroes, or half-breeds, and the Jews. In books I have sometimes seen the word "Kabyles" employed as if to designate some North African race; but, as far as I am aware, the term, as used by the Moors, refers in a general way to villagers or country people employed in agriculture.

Of the history of the Berbers, there is probably less to be known than of that of the other races of Morocco. On the route to Fez, I have seen small walled towns built high up on the hills. These, I believe, are the dwelling-places of Berbers, and of Berber origin. But it is more easy to say what a Berber is not, than to define what he is. That he came from the East is most probable; but did he come from Canaan, and if so, is he a Gergesite, a Jebusite, or a Phœnician?

According to M. Deveaux, the Berber is the original or oldest element of the North African village population. "The base," he says, "of the Kabyle population is of the Berber race, consequently of the Caucasian. The Berber race forms the nucleus of the population which inhabits the portion of Africa which extends from the northern (?) shore towards a zone as yet unexplored, perhaps reaching to the confines of Ethiopia" (*L'Institut*, sect. ii, 306, 1861).

Le Hon mentions that M. Desor, since his journey to the Sahara, has described numerous and important dolmens on the slopes of the Atlas; and it is suggested that the ancient Numidians and the actual Berbers may be the descendants of the mysterious people who erected the dolmens. Relics of the character here alluded to are not very common in the northern districts of Morocco; but I have myself seen at least one important specimen not above two days' journey from Tangier.

It is at least probable that people of Phœnician race mixed with the most ancient inhabitants of Morocco. On this point M. Texier remarks: "The Phœnicians built a fortified place in Numidia on the same site as that of the existing town of Tingis" (Tangier).

Pleyte, a recent and admirable Dutch historian, writing of the Berbers, referring to *Talmud Jeruschalmi, tract Schal.* c. 6, f. 35, says, that on the conquest of Canaan by Joshua, the Gergesites, "who believed in God," took to flight and made their escape into Africa.

Bearing somewhat on the Canaanitish origin of the Berbers we read (*Chron. Paschale*, ii, p. 96) of neighbouring populations, that the inhabitants of the Balearic Islands were descended from Canaanites, who fled before Joshua, and that the town of Cadiz in Spain was built by Jebusites and other Canaanite tribes.

The name Berber is probably derived from the Arabic word *berbera*, and if so, may mean a jumble of unintelligible cries—a not unnatural description for one barbarous people to give of another barbarous people's language which they did not understand. Al-Ryf (the Ryf-men) are a somewhat more tangible subject than the Berbers.

On landing about two years ago at Tangier, I began to remark, about the market-places, lightly-clad, sun-burnt figures, with heads shaved, all but one occipital corner, where a tuft of hair was allowed to develop into a long tress, which was worn either plaited or flowing luxuriantly and unconfined, like an animal's tail. "Who are these men?" I asked my interpreter. "Bery bad men, sir!—suppose you want to kill me—then you give one of these men a penny—one penny—and he will do it."

These wild relatives or descendants of the Ryf pirates of other days are the inhabitants of the northern spurs of the Atlas range which separate Morocco from Algeria; and, though they are nominally the subjects of the Sultan of Morocco, they never have been really subdued in their mountain fastnesses. They are very jealous of any violation of their territory, and for a stranger to attempt to pass through these mountain ranges is said to be certain death. Al-Ryf, however, are by no means confined to these inaccessible and inhospitable regions. The entire Tangier district is reckoned to be Ryf territory, and what little agriculture goes on is in the hands of al-Ryf. But this province is by no means one of the most fertile in Morocco. Many of these people are also shopkeepers in the towns, practise handicrafts, and occupy themselves in commercial pursuits. The present Basha of Tangier is a Ryfy (Ryf-man). Like all the fair people of Morocco, al-Ryf are a handsome and well-formed generation. When they are constantly exposed to the sun, their skin takes on a magnificent bronze colour; but those who follow indoor pursuits are of a delicate olive complexion.

During the famine-winter of 1867-8 there wandered about the streets of Tangier a small Ryf family of three orphans. The eldest was a girl just developing into womanhood, and possessing splendid dark eyes, rather well-proportioned features, and in other respects as much beauty as was consistent with constant exposure to the weather and a chronic experience of very short commons. The next member was a girl much younger, and the third a little boy about four years of age. The father of these children, I was told, had been killed by his brother, so that, being without a natural provider, they had wandered, in that cruel winter, to semi-European Tangier, where charity somewhat more abounds than in the less mixed Moorish population. The brother of tender years, when asked "what will you do to your uncle when you are big enough?" used to answer with infantine energy: "Kill him, kill him, kill him!" I mention this as an illustration of how early the sentiment of the "blood-feud" becomes a part of the young idea of these people.

As the traveller advances from the coast towards the great plains of the interior, he finds the character of the population change. The villages are no longer composed of mud or cane-built huts, but consist of groups of tents. This indicated the presence of the Arab race, who, like all invaders, have occupied the richest portions of the country. However, in the great fertile plains of Morocco there is room for a much larger population. According to the best information I have been able to obtain, the number of the inhabitants has very much de-

creased, and is still decreasing. I have met persons who deny that the entire population of Morocco can exceed five millions.

It would be needless to describe the Arab of Morocco, as I am not aware that he differs materially from his brother of the east. A somewhat remarkable race are the Bohāra troops. Their ancestors were a rebellious Negro tribe, living south of the Atlas; and being subdued by one of the Sultans, were afterwards formed into a body-guard, at present numbering two thousand men. Though they have since intermarried with Moorish women, they have not lost the Negro type of feature, nor much of that complexion which is "the shadowed livery of the burnished sun."

The Sultan himself, though Sheryf, that is to say, the descendant of the Prophet, is pretty nearly as dark as his Bohāra horse-guards; and this complexion is likely to show itself for some generations, as his Sheryfian Majesty's predilection for dark coloured wives is well known.

There are many Negroes in Morocco, both slaves and free men; and the intermarriage of the females with the fair Moors produces a mixed race. But the true Moor is a fair man; I have seen some individuals with blue eyes and light or red hair. The Jews form a not inconsiderable portion of the population of Moorish towns; and in Tangier, where these people are more numerous than elsewhere, they constitute, perhaps, one third of the native community; but in other places they perhaps do not form a tenth of the town population. An adequate account, however, of the character and real condition of the Jews of Morocco would require almost a separate paper.

Though all the native races, with the exception, of course, of the Jews, profess to believe in "God and his prophet Mohammed," yet the traditions of far older phases of religion are unquestionably still extant. Even the primeval Fetish still flourishes. There is on the beach at Tangier a large cylindrical stone, or rather rock, which daily, at low water, attracts the devout salutations of many Moorish women.

Mr. A. L. LEWIS said the paper raised a number of questions, some of which had a deeper interest for Britons than might be generally supposed. It was extremely probable that there might have been a Canaanitish influence in North Africa, and there were also various, though perhaps obscure indications of a residence in Africa of the progenitors of the Irish, who might have been influenced during such residence in such a manner as to receive and transmit to their present representatives some of those peculiarities which now puzzled anthropologists and politicians. The fact of megalithic monuments being found in North Africa showed, amongst other things, that a certain influence, perhaps of Phœnician origin, had been at work there, which had pervaded many other countries from India to Britain and Scandinavia, but these monuments were not as yet known to exist in that part of North Africa which lay nearest Egypt, which tended to show that the builders had come over from Sicily and worked towards Gibraltar.

The CHAIRMAN said the author of the paper derived the term

"Berber" from the Arabic word *berbera*, "a jumble of unintelligible cries." This reminded one of an etymology of Leo, quoted by Müller, that the name which the Germans gave to their neighbours the Celts, *Walh*, in old high German, *Vealh* in Anglo-Saxon, the modern *Welsh*, is supposed to be the same as the Sanskrit *mlechha*, "a person who talks indistinctly," a sort of etymology very well for babies. It would be absurd to suppose that the Welsh could have derived their name direct from the Sanskrit. But it might be as well to see whether a better etymology of the word Berber could not be found than that suggested in the paper. The Arabs also give the name of Berber to the Somāli, who inhabit the country between Abyssinia and Zanguebar, and to the Barābrā, the general name by which the peoples of Nubia are designated in Egypt. But these three peoples are different in race, language, and everything else. Burekhardt derives the name of the Barābrā from a wady or district of Upper Nubia, on the right bank of the Nile. The Hebrew word *bar* signifies "son," and *ēber* or *ēbr* "region on the other side"; so that *Bar-ēber* or *Bar-ēberon* might signify "the people on the other side", i.e., "the people beyond the boundary, or across the stream." Again, the Hebrew *bar* is a field, plain, country, and the Arabic *barr* is also a desert: so that a compound, *Bar-ber-berr*, or *Bar-berim*, might mean "people of the country or of the desert." Now this latter etymology (people of the desert) was supported by the fact that Barbary, before it was inhabited by the Arabs, was almost depopulated, and also because all the oases of the desert were formerly peopled by Berbers. But another etymology might still be found. Among other names for Barbary, in vulgar Arabic, were *Belād-ēl-Moghārebah*, "the country of the West"; and *El-Moghreb*, "the West," *Berr-ēl-Gharb*, and *El Gharb* respectively of the same meaning. Now, if the term *El-Gharb* was used to designate Barbary, might not this district also be called the *Berr*; and if so the inhabitants would be named *Bar-Berr*, "the people of the Berr." The term Kabylah meant "men who lived in tribes," from Arabic *kabā'il*, a tribe, plural *kabylēh*; and Tawārik or Tuārik, is a plural formed from the Berber word *terkā*, of the same meaning. Mr. Dendy was of opinion that the descendants of Cush peopled the North, and those of Ham the South, of Africa; but he admitted that this was a sweeping assertion; and he, Dr. CHARNOCK, agreed that it was such.

Sir DUNCAN GIBB, Bart., read the following paper: *On the Paucity of Aboriginal Monuments in Canada.*

I have oftentimes been struck by the remarkable scarcity of monuments of an aboriginal character when residing in Canada, contrasted with the neighbouring, more southern territory of the American Union and the nations of Central America. Being familiar with most of the archaeological discoveries such as we know them in Canada or the immediately bordering lands, such as the pictured rocks of Lake Superior, and the great mounds of Ohio, and other states contiguous to Canada, it has occurred to me there must be some good reason why architectural monuments are either wholly absent in Canada, or so scarce that as yet we know of very few or almost none of them.

Humboldt, indeed, in his *Aspects of Nature*, published by Bohn, refers to a monument discovered in the prairies of Canada, about nine hundred French miles due west from Montreal. This would be either in the state of Wisconsin, to the west of Lake Michigan, or to the north or south of Lake Superior. I incline to think it the prairie land in the first named, but which was considered a part of Canada at the time the monument was discovered. Regarding this monument I shall have a word to say by-and-bye.

In discussing the subject of Aboriginal Monuments, I would exclude the small remains of the earlier inhabitants of Canada, such as flint arrow-heads, stone implements or weapons, fragments of pottery, etc., found now and then in various parts of the country. I would also exclude Indian burying-grounds, which are not uncommon in Canada, near Dundas, Ottawa, and other places, even with large, full-grown trees flourishing over them, because, although the inhabitants may have been ancient, they were not builders of stone. Likewise I would exclude the Ancient Mounds described by Mr. T. C. Wallbridge in the *Canad. Jour.* for September, 1860, occurring upon the shores of the Bay of Quinté. These are similar to the barrows or tumuli described by American antiquarians, and extend along the bay shore for eight miles, in which distance as many as a hundred of them may be counted. It is conjectured, also with good reason, that they may extend to the shores of the upper lakes, and thence to the most remote parts of the Continent. There is this curious fact, however, which allies them to ancient monuments, and it is that for the most part they are constructed of masses of broken gneiss brought from a distance, and covered with a layer of earth of a certain thickness. They are invariably sepulchral in character, for they contain human remains, and objects of curiosity and art, not unlike our English barrows, and such as extend over a very wide range of the North American continent, especially in the state of Ohio and valley of the Mississippi.

The present communication refers to monuments that had been erected either as dwellings, or temples of a religious character, as met with in Chiapas, Yucatan, Mexico, Peru, and other places.

There seem to me to be *two* good and sufficient reasons why such remains have not been found in Canada, and one of them will apply to northern nations in other parts of the world. It is this, that the extreme cold and rigour of such a climate as exists in Canada, with its six months of winter, the ground for the most part of the time, indeed the whole of it, covered with snow; and although the change is very rapid in the spring of the year from winter to summer, the summer being not inferior to that of the tropics, is nevertheless unfavourable for the long conservation of architectural monuments or remains of any kind, unless carefully looked after as in modern times. The continuous frost of winter will in time destroy everything of a monumental character, built up of separate stones, no matter almost what their size may be, unless I except the Canadian mounds of stone, covered with earth. We have no evidence, that I know of, of the existence of truly aboriginal temples or monuments in any part of Northern Europe, although perhaps there may be some in Asia, but

certainly none exist in America, although there are still large districts of country that have not as yet been thoroughly explored. In the southern frontier mountains of Siberia, and in the steppes of the middle regions of the Lena, it has been asserted that frequent memorials are found there of ancient grandeur, magnificence, and culture, of which some are presumed to be of an antiquity demonstrably of above a thousand years. The crumbling ruins of some ancient town are now and then found, and Tartarian tombs in Siberia, containing objects of interest, antiquity, and art. But I doubt whether such things are found very far north in Siberia, although I am free to admit that where they are found would be about the same latitude as many parts of Canada. The same also may be said of some of the wonderful Lamaseries and other temples, found in the elevated and northern parts of Asia, which have been described by various travellers; but they are comparatively modern, and cannot possess any claim to rank as aboriginal, although it is very possible that some may possess a tolerably great antiquity. Climate, then, is the great drawback to the preservation of aboriginal monuments, and I very much doubt, from my intimate knowledge of that of Canada, whether, even supposing they had been built, their remains would have held long together from the destructive action of some centuries of frost and snow in the long winter season.

Secondly, the people who built the great American mounds, many of which are close to Canada, especially in the neighbouring state of Ohio, and who no doubt peopled the country north as well as south of the great American lakes, and erected the Canadian mounds as well, were, I believe most firmly, the descendants of those Tartar tribes who crossed into America by Behrings Straits, and who occupied the greater portion of the North American Continent, now represented by the existing races of Indians. They were altogether a different race of people to those who built the magnificent temples of Central and South America. I state this advisedly, notwithstanding the interesting essay of Mr. Charles Whittlesey, on the *Ancient Miners of Lake Superior*, wherein he has endeavoured to show the connexion of the Aztecs, or Ancient Mexicans, with the ancient mining operations on Lake Superior (*Can. Jour.*, vol. i, 4to, 106). Supposing even it were established that the Aztecs arrived in Central America from a northern region one thousand two hundred years ago, *i.e.*, about A.D. 600, I still think that the *climate* would be the chief reason for no stone buildings being erected, or, if erected, soon hopelessly destroyed. Whether the Aztecs are the mound builders or not, or the ancient miners of Lake Superior, does not signify in the general argument, for we find no monuments of stone in Canada.

If anything points more to a kinship between various nations, it is their monuments, and it is curious to reflect that the Mexican and Central American monuments exist in a climate that is not unlike that of Egypt, and one in which the rule is preservation like that of Egypt, instead of disintegrative destruction, as would occur in a cold climate like that of Canada. Who can tell whether they, the ancient Egyptians and the Mexicans, may not be the descendants of one and

the same people. The modern representatives of the Indians, as we know them in North America, certainly manifest no architectural genius, inherited from their forefathers. The same may be said of the present Central American Indians ; but among the latter civilisation would seem to have departed from among them ; whilst among those of more northern parts it may never have existed, or if it did, the only remains left behind to show it are the great American mounds in Ohio, and other neighbouring states, and those in Canada.

The climate varies somewhat in the eastern and western parts of Canada, being milder in the latter and more favourable for the preservation of any monuments. Yet we find none of them unless the mounds, such as exist in the prairies of Ohio, almost alongside of Canada. I thought at first that the great chain of lakes formed a sort of dividing line between the mound builders and the then existing more northern Indians, but that could not be so, as mounds have been found north of Lake Ontario. The same line of reasoning respecting climate will apply to New York State, and all of the territory to the east, including Maine, New Hampshire, New Brunswick, Nova Scotia, and Newfoundland. The only aboriginal remains are chiefly rock sculptures and markings, as have been described from time to time by various writers, occurring chiefly in the state of New York. Of these Canada can boast of none in caverns, such as have been found in Scotland, although no one can deny that they may have existed at one time, but, owing to the denuding agency of frost and ice they are now all destroyed. Look at the lesson taught us by the Flower-Pot rocks of the Mingan Islands in the Gulf of St. Lawrence, which at one time formed portions of great sea caverns, the remains of which now lie high up on land some sixty or seventy feet above the level of the sea. The same also with similar flower-pot rocks of Gaspé and of islands in Lake Huron. As I am familiar with most of the land caverns in Canada, the absence of animal remains in almost all of them would point to severity of climate unfavourable for preservation of monuments. An exception to this may be taken in favour of the Mammoth Cave of Kentucky, and Weyer's Hole in Virginia, and probably the great caverns yet to be explored existing in the Middle Silurian Rocks of that portion of Western Canada (now the province of Ontario), extending from West Flamboro, at the extreme western part of Lake Ontario, running northward to Georgian Bay, to the east of Lake Huron. And probably also in a similar series of caverns, which I conjecture will be discovered some day in the northern part of the island of Anticosti, in the Gulf of St. Lawrence, in the same geological formation.

To refer to the monument in the great prairies of Canada, as described by Kalm :—It consisted of great pillars formed of a single stone each, with others laid across the top of them, forming a sort of wall, and their size was such as in some respects to resemble the Druidical monuments of our own country. A single large stone, like a pillar, was met with, and in it a smaller one was fixed, which was covered on both sides with an inscription in unknown characters. This stone, twelve inches by six, was detached, carried back to Canada,

and sent to France to the Secretary of State, the Count de Maurepas. The Jesuits in Canada unanimously affirmed that the letters were Tartarian; and on comparing the two sides of the stone they were found to be alike. If I can claim this ancient monument as Canadian, then it is the only one that has hitherto been discovered, but unfortunately it is lost to science, for its whereabouts to this day remains unknown. Humboldt states that he had in vain requested many of his French friends to make inquiries regarding it. I may say the same of myself, for not only did I make ineffectual inquiries to discover it, but sought for it in the various museums of Paris, in which my efforts were seconded by many powerful and willing friends.

In the western part of Canada there are a few scattered ancient fortifications or embankments called Indian forts, especially in the counties of Beverley, Vaughan, Whitchurch, and the country about Lake Simcoe; there is a remarkable one near the mouth of the small river Huron, on the western or American side of the river Detroit, near Lake St. Clair.

Respecting the earthworks, embankments, fossæ, and ramparts of these fortifications which exist in many parts of the United States, though more sparsely in Canada, I would claim for them an antiquity not later than that of the Roman encampments met with in Britain; and, providing they are situated on land sufficiently elevated, their preservation would be secured for long periods of time. Many of these mounds, and especially some in Canada, have the largest-sized forest trees growing upon the top of them, which always points to an age of many centuries at the very least.

In conclusion, it may be said that, if true aboriginal monuments are few, scarce, or altogether absent in Canada, we have an explanation in the character of the climate, together with that of the aboriginal inhabitants themselves, which certainly points to the superiority of their mental development, in so far, that where so much snow existed for so many months in the year, it would have been the extreme of folly to build temples, monuments, or houses of stone, that would in time become destroyed unless kept in a state of constant repair, by incessant watchfulness, as is the practice and custom at the present day among their more modern successors.

The *only* stone pyramidal edifice north of Mexico is stated to be not far from Newark, near the Ohio and Erie Canal; it stands a large tumulus, built of *stone*, described as a right cone in figure, with an altitude of about forty feet, and a base with a diameter of a hundred feet. Newark is about thirty-six miles south of Sandusky, on the shores of Lake Erie. Regarding the preservation of this aboriginal mound, it must be stated that a comparatively mild winter occurs in Ohio, with but little snow or denuding agency such as exists in Canada.

The crania, however, of the aborigines, as found in the tumuli of Ohio, represent individuals of a very low type, and quite incapable of constructing such noble monuments as are seen in Central America. Yet it has been stated that, anatomically, there is a striking resemblance between the crania of the race of the Mounds and the ancient

Peruvians. And the extension of these mounds, tumuli, etc., through western North America and Mexico to Peru—an assertion which I call in question—induces a belief that the race which constructed them emigrated thither; and their termination there, to the conclusion that the natives went no further. Into the question who were the mound builders I do not purpose going, as the scope of my paper refers exclusively to the Paucity of Aboriginal Monuments in Canada, which I have attempted to explain as briefly as the subject would admit of.

Mr. Gould Avery, Dr. Richard King, Mr. Dendy, Sir Duncan Gibb, Mr. Mackenzie, and Mr. MacCarthy also joined in the discussion.

The meeting then adjourned.

JUNE 14TH, 1870.

DR. BEDDOE, PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were confirmed.

Logan D. H. Russell, Esq., M.D., was elected a Local Secretary for Wilmington, Delaware, U.S.

The following list of presents was read, and the thanks of the Society were voted to the respective donors:—

TO THE LIBRARY.

From the EDITOR.—Food Journal, No. 5.

From Dr. E. T. RYAN TENISON.—The British Medical Journal.

From the EDITOR.—Scientific Opinion (to date).

From the SOCIETY.—Proceedings of the Royal Society, No. 119.

From the INSTITUTION.—Journal of the Royal United Service Institution, vol. xiv, No. lviii.

From M. AD. QUETELET.—Mémoires Couronnés in 4to, t. 34, in 8vo, t. 21. Bulletin, 2nd Série, t. 27-28. Annuaire de 1870. Phénomènes périodiques, 1867-68. Notice sur le Congrès de Florence, Académie Royale de Belgique.

From the SOCIETY.—Bulletin de la Société Impériale des Naturalistes de Moscou, Nos. 1, 2, 3.

From Dr. KOPERNICKI.—Postac Kasimierza Wielkiego, Dr. Joseph Majer. Lebensbericht van Prof. Jan Van der Hoeven. Prof. G. F. Groshaus.

From the AUTHORS.—Les Carthaginois en France. M. de Marchard et Dr. Pruner-Bey.

The CHAIRMAN announced that Dr. Richard King, Mr. C. Staniland Wake, and Mr. Gould Avery have been appointed delegates to represent the Society at the Liverpool meeting of the British Association.

The following papers were read:—

1. *On the Irish Celt*, by HENRY HUDSON, M.D.

Although Mr. Avery's paper on the Irish Celtic race has scarcely done it justice, he nevertheless has well deserved our thanks for direct-

ing the attention of the Anthropological Society of London to this subject at a time when our rulers are evidently anxious to conquer "England's great difficulty" by giving contentment to the Irish as a nation. It is but too obvious that their efforts to attain this most desirable object must end in total disappointment if legislation be not founded on a due consideration of the characteristics of the people, whom, I have no doubt, they are conscientiously desirous to benefit.

My principal object, however, is not to comment on the past, but to depict the marked characteristics of the Irish Celtic race, and to draw conclusions from thence as to how they ought to be governed.

As a general rule, then, the Celts are a warlike race, brave, but too often rash and hasty, generous and warm-hearted, but improvident, hospitable, affectionate, and grateful for kindness, jealous of honour, dreamy, full of deep sympathies, but irascible, uncertain, and treacherous; despising peaceful arts, labour, industry, order, economy, and cleanliness, they are deeply religious, and, as being so, are but too frequently victims to superstition, under the influence of which they are often a prey to the most abject terror, or susceptible of being excited to outrageous violence and bloodshed without remorse or pity.

Any denial of what the Celt considers justice provokes his unbounded rage and vindictiveness. They are essentially "clannish," from a want of individual self reliance. Their perception and enjoyment of humour or fun is intense, their reasoning faculty is by no means deficient, but their imagination is so much more potent than their reason, that it is through this faculty they are most easily influenced and led whether for good or evil. They are, I regret to say, not truthful, but this may, perhaps, to some extent be attributed to an exuberant imagination. As Knox has said, "How tender are the feelings of the Celtic woman, her tears flow at every tale of distress, but her children are in rags." The Celt is content amid dirt, beggary, or even semi-starvation, unless roused to the idea that these evils are the consequence of injustice or oppression, in which case contentment gives place to deadly hatred, fury, and blindly-vindictive bloodthirstiness, without the slightest reasonable prospect of any good to himself or others from the indulgence of these passions.

I have not spoken of the eloquence with which the Celtic race are so often gifted, for it is chiefly the product of a fertile imagination; in like manner, I have not referred to their love for music, nor to the character of the national melodies, at one time expressive of the utmost tenderness or deepest pathos, at another breathing the wildest spirit of mirth, and often giving utterance to the most heart-stirring call to the battlefield. Although these qualities strongly indicate the character of a race, they do not form that character. They are products, not germs.

A few examples may, perhaps, afford a clearer view of some of the most marked characteristics of the Celt. First, then, I have known an Irishman (being utterly penniless) to borrow a few shillings for the express purpose of getting food for his hungry children, and before he went forty paces with the money in his pocket, I have known him give this very money to another who (meeting him) asked his aid to

preserve his own family from starvation. Can anything evidence more strongly the "generosity and warm-heartedness combined with thoughtless improvidence in this fine race?" Secondly, the faction fights which formerly disgraced almost every fair in the country bore the strongest testimony to the "clannish propensities" of the Celt, which are also strongly evidenced by the fact that the Irish always herd together in some one quarter of any town in which a large number of them are to be found, as well as by the tendency to *sub-divide land* (no matter how small the quantity) *amongst all* the members of a family. Thirdly, as to the influence which can be obtained over them for good or for evil. It is impossible not to allude to the long supremacy of Daniel O'Connell. Through his eloquence—so admirably suited to the character of his countrymen—he could rouse his tens or hundreds of thousands to a state of excitement that apparently must end in open violence and rebellion; and yet (until "Young Ireland" took the reins out of his hands in the decline of his power) he possessed such an influence as caused those enormous assemblies of the most excitable race under the sun to disperse and return to their homes with unparalleled quietness and order. The confidence they reposed in him had no limit, and they obeyed him accordingly. The true lesson to be learned is, in fact, that "the Celt *cannot be driven*, but is easily led or guided by any one whom he deems his friend." The character of the Celtic race, which I have so far endeavoured to describe, establishes the conclusion that they are not fitted (like the Saxon race) for organising or living under a mere cold system of "constitutional freedom." If left to themselves they must inevitably fall into the hands of a military leader, or else anarchy is the consequence. It is vain to expect—after the experience of seven hundred years—that climate or any other incident (not even an Act of Parliament) can convert a Celt into a Saxon. How fully does the experience of events not merely in Ireland, but also in Celtic France, point to the same conclusion; and will our Government never open their eyes to let in this light upon their understandings?

How, then, is the Celtic race to be conciliated and ruled for their own as well as the national good? They require a paternal government, with a strong and firm hand to put down the slightest disobedience or resistance to the laws of the land. The most mischievous mistake any government could fall into would be to encourage their *clannish propensities* by any act which would facilitate the "sub-division of land." Any party who is found to excite them either by speech or writing, to treason or hostility to the national Government, ought to be *at once* made subject to the strongest power of the law. Such "escapades" are usually harmless amongst our Saxon brethren, who go home and reason the matter out quietly, but the imaginative Celt broods over the picture of the wrongs inflicted on his ancestors as personal wrongs to himself, and is thus too often led to the perpetration of the most atrocious acts. Let our rulers, then, stretch out their hands to protect the excitable warm-hearted Celt from these dangerous influences. While, on the other hand, nothing could tend more to peace and love in Ireland than the presence of members of

the Royal family—and above all of our most gracious Queen—amongst our warm-hearted and excitable population; they would be easily won to “love and trust her.” Then indeed we might hope to see peace and happiness established in our hitherto distracted country.

There is one melancholy product of the infamous penal laws which formerly disgraced our statutes. This is the almost impossibility of obtaining information or evidence against the vilest criminal, even from parties who had witnessed and *detested the act*. This difficulty has arisen from the dread of being called an *informer*. We cannot wonder that when such laws were in existence, the name of “informer” was considered by the Irish Celt as more odious than “murderer,” or any other conceivable epithet; and it *may* take generations of good government to do away with this feeling amongst our Celtic population, *unless*, indeed, the hierarchy and priesthood of the Church of Rome could be persuaded to announce throughout the breadth of the land that “the rites of their Church (absolution) would be altogether denied to any person cognisant of such atrocious crimes who did not *at once* give every information in his power to the authorities.” This would make the giving of information (in cases of *murder*) a *duty* instead of a *crime* in the eyes of the people, and would almost entirely deter the villains who commit such crimes from attempting them, as, at present, they rely on escaping with impunity, in consequence of the people’s horror of being designated informers.

2. *On the Race Elements of the Irish People*, by G. H. KINAHAN, Esq.

[*Abstract.*]

The present inhabitants of Ireland appear to have a very mixed ancestry. Before Christ we find the island inhabited by the Firbolg and Le Danaan, the latter apparently being an enlightened people, from the remains of the structures erected by them, such as fortifications and huge monumental piles, numerous throughout the island. (The names Danaan and Dane are so similar, that one has been confounded with the other; and the structures and the buildings erected by the Danaan are said to have been made by the Danes.)

After the year A.D. 790, the Danes and other northmen invaded and settled in different parts of the country, but generally at or near the coast; also colonies from other parts of the Continent of Europe, but it is generally supposed principally from Spain and Portugal. The descendants of all these different tribes and nations that settled in Ireland prior to the English invasion, in the thirteenth century, appear to have been classed under the general name of Celt; however, after the descent of the Saxons on Ireland in the thirteenth century (12th?), the great mixture of the races seems to have begun, which has increased more and more up to the present day.

In Ulster there was an invasion of foreigners, principally from Scotland; the English of the Pale settled on the west coast; while mercenary soldiers, that seem to have been collected from different places in Europe, occupied parts of Connaught and Munster. In after years every new Lord Deputy of Ireland confiscated parts of the country from the Irish inhabitants, and gave portions to their minions; but

in James's, Cromwell's, and William's reigns there were wholesale confiscations to make way for emigrants from England.

It might be supposed that these foreigners would only have occupied the good land, and have left the wild mountainous country to the Irish. This, however, is not the case, for the latter emigrants drove out the descendants of those that came earlier from the good land. Moreover, grants of all the wild country were given to persons of foreign extraction.

From the intermarriages of these different races there is now no type to be found by which to judge whether an individual is of Celtic origin or otherwise; for many of the inhabitants, with a true Irish name, such as O'Flahertie, will be fair while the others are dark, some will be tall, others short, etc., etc. And similarly among the inhabitants whose names would lead you to believe they were descended from foreigners.

3. *On the Kelts of Ireland*, by JOHN BEDDOE, M.D., President, A.S.L. (The paper appears in the *Journal of Anthropology* for October.)
[Abstract.]

The principal points proved or indicated in it were the following:

That the Kelts known to the Greek and Latin authors, though they were a light-haired race as compared with the Italians, were darker than the Teutonic tribes; and that their physical type differed in other respects.

That the Irish are, generally speaking, a dark-haired but light-eyed race, and that wherever there is much light hair it may be accounted for by a Danish or English cross.

That the dark hair of the Irish may be, partly at least, attributed to the Gaelic Celts.

That there is less resemblance between the Irish, taken as a whole, and the Basques, who are generally considered to be the purest Iberians extant, than between the South Welsh and the Basques.

That any Basque or Iberian element in Ireland is probably small, and can have only partially contributed to the prevalence of dark hair among the Western Irish. That Ugrian or Ligurian elements may also be present there.

The paper was illustrated by minute details respecting the physical types in various parts of modern Ireland, including extensive observations on the colour of the eyes and hair; and the author exhibited a number of photographic and other portraits of Basques and of Bretons, Welshmen, Walloons, and other supposed descendants of the Celtic race.

The CHAIRMAN having invited discussion on the above papers together,

Dr. CARTER BLAKE, though he avowed himself one of the unhappy subjects of Dr. Hudson's paper, would endeavour to keep strictly to the question of the physical aspect of the Irish, as he did not consider it necessary to vindicate them morally or socially. He thought two types at least might be discerned. One, the dolichocephalous, low-browed, with large superciliaries, black-haired and grey-eyed type, which was found in Munster and Leinster, and which was shown in

such skulls as the Louth, the Glenarm, the Corcomroo, and other well known specimens. This high type pure blood Irishman, perhaps, in some well-known clans (*e. g.* O'Neill) shaded into the "Scotch" type in Ulster. Whether Ulster was peopled from Scotland, or Scotland from Ulster, mattered little in the argument, as both were the same race. This type agreed with the type of the Spaniard from Santander, of which Dr. Beddoe had shown a photograph, and differed entirely from the typical Basque type. But the other Irishman, the "Con-naught man," who was perhaps also found in Kerry, as shown by Dr. Beddoe's "Arran" photographs, was another being altogether. Mongoloid in aspect, with the *orbicularis oris* muscle strongly marked, we see in Mr. Tenniel's caricatures in *Punch* examples of this type. Surely there was no race affinity between these two forms of Irish countenance, and it was wrong to take the "Arran" type as an example of the true Irishman. But Dr. Carter Blake felt interested in the type which Dr. Beddoe had described from Connemara, "small, black-haired men." Were they brachycephalic? Did they have the same affinity to the true Celt that the Kymry of North Wales bore to the Silures? Were they, in fact, relics of a pre-existent Ugrian or Ligu-rian race, as M. Pruner-Bey had hinted? These were only questions, to which he was not going to answer; but one fact was at least clear, that there was nothing like the Basques in Ireland.

Dr. CHARNOCK said his remarks would be confined to Dr. Beddoe's paper. The latter stated that the Spanish element prevailed most in Kerry. He, Dr. Charnock, always understood that it was principally in Galway that the Spanish element was to be found. With regard to stature, that of course depended upon external circumstances. In the north and north-east, and, indeed, in most parts of Ireland, except the west, the people are a mixed race. This remark was applicable to the Tipperary men. Mixed races generally produced fine men. The author of the paper seemed to a certain extent to use the terms "Basque", "Iberian", and "Spanish" synonymously. Now there was as great a difference in every respect between the Basques and the Spaniards proper, as between the English and the Chinese. The term "Iberian" was sometimes used for "Basque", sometimes for "Spanish." It was also applied to the north-west corner of Spain, and, by classical writers, to the whole Peninsula. Originally, no doubt, Iberian simply related to the people inhabiting the banks of the Iber or Ebro. Further, the term "Iberia" was given to a country of Asia Minor, between the Black and Caspian Seas, inhabited by a people having nothing in common with the inhabitants of the Peninsula. Dr. Beddoe said that, in order to treat the subject in question properly, an intimate acquaintance with the Celtic, Teutonic, Euskarian, and Ugrian languages was necessary. Now, the excellence of the paper itself rather disproved this assertion. The fact was that, although it was possible that some Teutonic words might have found their way into the Irish language, he, Dr. Charnock, had not been able to trace a single word to the Basque, the Finnish, the Magyar, or to any of the Ugrian dialects.

The discussion was further sustained by the Rev. Dunbar I. Heath;

Professor Henry, of the Smithsonian Institute, Washington; Mr. Walter Dendy; Mr. J. E. O'Cavanagh; Mr. Edward J. Wade; Dr. Seemann, and the Chairman.

It was proposed by Dr. SEEMANN, seconded by Mr. MACKENZIE, and carried unanimously :—"That this meeting of the Anthropological Society has listened with peculiar pleasure to Professor Henry's account of the Smithsonian Institution, and takes advantage of his presence to express its appreciation of the enlightened policy of that useful Institution."

The CHAIRMAN having announced that the new *Journal of Anthropology* would be issued to Fellows in July, adjourned the meeting until next Session, to commence November 1st.

JOURNAL

OF THE

ANTHROPOLOGICAL SOCIETY OF LONDON.

NOVEMBER 1ST, 1870.

DR. R. S. CHARNOCK, V.P., IN THE CHAIR.

THE minutes of the previous meeting were read and confirmed.

The following new Fellows were elected : Matthew Heslop, Esq., 23, Spring Gardens, Doncaster ; J. R. Mortimer, Esq., Driffield, Yorkshire ; Anthikum Venkata Nursing Row, Esq., Dabu Gardens, Vizagapatam ; James Hope, Esq., Madras Civil Service, Gangum District, Madras Presidency ; and Walter M. Parker, Esq., Warren Corner, near Farnham, Surrey.

William Storey, Esq., M.D., F.A.S.L., was elected Local Secretary for Malta ; and Frank Wilson, Esq., F.A.S.L., was elected Local Secretary for St. Paulo de Loanda.

The following presents were announced, and thanks were voted to the respective donors.

FOR THE LIBRARY.

From M. A. QUETELET—Memoires de l'Académie Royale de Belgique Couronnés in 4to, t. 34 ditto ; ditto in 8vo, t. 21 ; Bulletins, 2e série, 27, t. 28 ; Annuaire de 1870 ; Phénomènes périodiques, 1867-68 ; Notice sur le Congrès de Florence.

From the SOCIETY—Bulletin de la Société Impériale des Naturalistes de Moscou, Nos. 1, 2, 3, 4.

From the EDITOR—Nature, to date.

From Professor GARBIGLIETTI—Annuario del Museo Zoologico della R. Università di Napoli ; Additamenta et Emendationes ad Catalogum Methodicum et Synonymicum Hemipterorum Heteropterorum Italiae.

From the SOCIETY—Proceedings of the Royal Geographical Society, vol. xiv, Nos. 2, 3 ; Annual Address to ditto ditto, Sir R. I. Murchison.

From the INDIA OFFICE—Catalogue of Maps of the British Possessions in India and other parts of Asia.

From the EDITOR—The Food Journal, Nos. 6, 7, 8, 9, 10.

From the SOCIETY—Schriften der physikalisch ökonomischen Gesellschaft zu Königsberg in Pt. 8, Jah. 1, 2 Abth. ; ditto, Pt. 9, Jah. 1, 2 Abth. ; Pt. 10, Jah. 1, 2 Abth.

From the AUTHOR—Iconografia di alcun Ogetti di Remota Antichità rinvenuti in Italia. By B. Gastaldi.

From Professor STEENSTRUP—Oversigt over det Kongelige danske Videnskabs-Selskabs, Copenhagen, No. 3, 1869 ; ditto, 1868-69-70.

From the AUTHOR—Anales del Museo Publico de Buenos Aires. By Dr. Burmeister.

From IMPERIAL ACADEMY OF SCIENCES, Vienna—Sitzungsberichte Kaiserlichen Akademie der Wissenschaften, 61 B., H. 2, 3 ; Id. philos-histor Classe, 62 B., H. 1, 2, 3 ; ditto, Math-Natuur. Classe, 1869, 1 Abth., H.

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- From Professor A. ECKER—*Archiv f. Anthropologie*, 1866 to 1869.
- From the SOCIETY—*Proceedings of the Royal Society*, Nos. 120-121, 122.
- From the SOCIETY—*Proceedings of the Asiatic Society of Bengal*, Nos. 5, 6, 7, 8; *Journal* ditto, part i, No. 1, part 2, No. 2.
- From the ACADEMY—*Bulletin de l'Académie Impériale des Sciences de St. Petersburg*, tome xiv, Nos. 4, 5, 6; tome xx, Nos. 1, 2.
- From the SOCIETY—*Journal of the Ethnological Society of London*, vol. ii, Nos. 2, 3.
- From the AUTHORS—*Matériaux pour l'Histoire Primitive et Naturelle de l'Homme*. 2de série. 4, 5, 6. 1870. By MM. Mortillet, Senet et Cartilhac.
- From the AUTHOR—*Ancient Pagan and Modern Christian Symbolism*. By Dr. Thomas Inman.
- From the INSTITUTION—*Journal of the Royal United Service Institution*, No. 58, 59, 60.
- From the EDITOR—*The Rectangular Review*, No. 1, July 1870.
- From the AUTHOR—*Biology versus Theology*. By Julian.
- From the INSTITUTION—*Annual Report of the Smithsonian Institution for 1868*. *Medulla Oblongata*, by Dr. Dean. *The Indians of Cape Flattery*, by J. G. Swan.
- From the SOCIETY—*Proceedings of the Boston Society of Natural History*, vol. xii, sequi 18, end vol. xiii, 1-14. Address at Humboldt Centennial, by L. Agassiz. *Invertebrata of Massachusetts*, by Dr. A. A. Gould.
- From the INSTITUTE—*Historical Notice of the Essex Institute*. *Proceedings and Communications*, ditto, vol. vi, p. 1. *Bulletin*, ditto, vol. i, 1869.
- From the AUTHOR—*L'Homme et les Singes*, by Dr. Pruner-Bey.
- From the ACADEMY—*Proceedings of the Academy of Natural Science of Philadelphia*, Nos. 1, 2, 3, 4, 1869.
- From the AUTHOR—*Anatomiczno-Anthropologiczne Postrzezenia nad Murzynem*, by Dr. Kopernicki.
- From the AUTHOR—*Snuff-taking*, by Dr. J. C. Murray, F.A.S.L.
- From T. BENDYSHE, Esq., M.A.—*Über die Bedeutung der Sprachefur die Naturgeschichte*, by Von A. Schleicher. *Die Darwinische Theorie und die Sprachwissenschaft*, by Von A. Schleicher. *La Philosophie Positive Revue*, by E. Littré and G. Wyronhoff.
- From the AUTHOR—*Il Brahuì*; *Studio di Etnologia Linguistica*, by Felice Finzi.
- From the AUTHOR—*Ancient Manorial Customs, Tenures, etc., of the county of Essex*, by Dr. R. S. Charnock.
- From the SOCIETY—*Annual Report of the Leeds Philosophical and Literary Society*, 1869-70.

A verbal communication was made by Mr. CHARLESWORTH, giving some details of his discovery, and the exhumation, from a Tertiary Formation in East Anglia, of a nearly perfect skeleton of one of the gigantic bovine animals, with which the Roman legions met when they

first penetrated into the dense forests of Belgium and Gaul, and which are described by Cæsar and Tacitus under the names *Uri* and *Bisontes*. The distinctions between these two species of the ox tribe were briefly explained, and the lower jaw belonging to the lately-discovered skeleton exhibited.

DR. CARTER BLAKE congratulated Mr. Charlesworth on having been the first to bring before science reliable facts as to the skeleton of *Bos primigenius*, which had hitherto only been known by the inaccurate figures which Bojanus had given to a German academy. He thought that all testimony of Cæsar respecting a fossil ox, of which it might be said, *a nostrorum boum cornibus differt*, rather pointed to some more short-horned ox than the *Bos primigenius* of Bojanus. Cuvier was accustomed to long-horned oxen, not to short-horned oxen, and the force of the expression *a nostrorum boum cornibus differt* might be really appreciated by the student of short-horned oxen. But Dr. Carter Blake congratulated Mr. Charlesworth on the nature and value of the specimens he brought forward. Whether his specimen was referable to *Bos primigenius*, or *Bos antiquus* (seu *giganteus*), Dr. Blake would not venture to suggest.

MR. C. STANILAND WAKE, Director, read the following Report of the Delegates to the meeting of the British Association at Liverpool:—

Report of the Delegates from the Anthropological Society of London to the British Association for the Advancement of Science Meeting, 1870. Liverpool.

By resolution passed at the meeting of the Council of the Anthropological Society of London, held on the 14th day of June last, the following delegates from the Society to the meeting of the British Association for the Advancement of Science, for the year 1870, were appointed, (namely), Mr. Gould-Avery, Dr. Richard King, and Mr. C. Staniland Wake.

Of these delegates the two former declined to act, and the following gentlemen were, therefore, appointed by the President to take their places (viz.), Mr. J. Kaines and Mr. A. L. Lewis, who with Mr. Wake, acted as delegates from this Society to the meeting of the British Association for 1870.

The first General Committee Meeting of the Association was held at Liverpool, on Wednesday the 14th of September last; and at this meeting the delegates thus appointed were present, as were also Dr. Beddoe, the President, Dr. Richard King, and other fellows of the Anthropological Society. After the minutes of the last preceding meeting of the general committee of the Association had been read, Dr. Beddoe put in a memorial, which had been prepared by Dr. R. King, and signed by various fellows of the Anthropological and Ethnological Societies, praying for the appointment of a Section of Anthropology and Ethnology. After some discussion, this memorial was read to the meeting by the Assistant General Secretary, and it was then announced that the Council of the Association had already provided for the formation of a department of Ethnology and Anthropology in Section D (Biology). In consequence of this announcement,

and of the election, which followed, of Dr. Beddoe as a Vice-President of Section D, your delegates, in conference with the President and Dr. R. King, thought it advisable not to press the present consideration of the memorial, and to rest satisfied with the recognition of Anthropology thus given by the Council of the Association.

This was the only portion of the business of the General Committee which more immediately concerned the Anthropological Society as a body. The report of the Council of the Association for the year 1869-1870, however, contained a recommendation which seriously affects the position of this, among other Scientific Societies, in connection with the Association. This recommendation related to the admission of members to the General Committee, and it was that the following rules should be adopted instead of those previously in force :

"The General Committee consists of the following classes of Members :—

Class A.—Permanent Members.

"1. Members of the Council and Presidents of the Association for the present and preceding years, with Authors of Reports in the Transactions of the Association.

"2. Members who by the publication of works or papers have furthered the advancement of those subjects which are taken into consideration at the Sectional Meetings of the Association. With a view of submitting new claims under this rule to the decision of the Council, they must be sent to the Assistant General Secretary at least one month before the meeting of the Association. The decision of the Council on the claims of any member of the Association to be placed on the list of the General Committee to be final.

Class B.—Temporary Members.

"3. Presidents for the time being of Scientific Societies publishing Transactions. Claims under this rule to be sent to the Assistant General Secretary before the opening of the meeting.

"4. Office bearers for the time being, or delegates, altogether not exceeding three, from Scientific Institutions established in the place of meeting. Claims under this rule to be approved by the Local Secretaries before the opening of the meeting.

"5. Foreigners and other individuals whose assistance is desired, and who are specially nominated in writing, for the meeting of the year, by the President and General Secretaries.

"6. Vice Presidents, and Secretaries of Sections."

The Report of the Council said as to the proposed recommendation : "The most important of the proposed changes are, that henceforth new claims to membership of the General Committee shall be forwarded to the Assistant General Secretary at least one month before the next ensuing Annual Meeting of the Association ; that these claims shall be submitted to the Council, whose decision upon them is to be final ; and that henceforth it is not the authorship of a paper in the transactions of a scientific society which is alone to constitute a claim to membership of the General Committee, but the publication of any works or papers which have furthered the advance-

ment of any of the subjects taken into consideration at the Sectional meetings of the Society."

No mention is here made of the restriction of the representation of Scientific Societies (other than those established in the place of meeting) to their Presidents for the time being, and the withdrawal of their right to appoint delegates to the Association. The impropriety of this alteration was so evident that Dr. Richard King moved, and Mr. C. Staniland Wake seconded, an amendment that the rule as to the reception of delegates from Scientific Societies should stand unaltered. Amendments, the same in principle, were moved by other members of the committee, and ultimately clause 3 of the amended rules, relating to the temporary members of the General Committee, was altered so as to allow of the appointment of a delegate from a Scientific Society, in case the President cannot attend the meeting of the Association.

On the close of the first General Committee Meeting, the committees of the separate sections met for business. Section D—for which Dr. Beddoe had been elected one of the Vice-Presidents, and of which your Director, Mr. Wake, was one of the Secretaries—was divided into three departments; that of Ethnology and Anthropology under the Presidency of John Evans, F.R.S., F.A.S.L.; that of Zoology and Botany under the Presidency of Professor Rolleston; and that of Anatomy and Physiology under the Presidency of Professor Michael Foster. The Anthropological Society was represented on the sub-committee for the department of Ethnology and Anthropology by Dr. R. King, Mr. Kaines, and Mr. A. L. Lewis, in addition to Dr. Beddoe, Mr. Evans, and Mr. Wake, officers of the section.

Public meetings of the Department of Ethnology and Anthropology, which were usually very well attended, were held in the lecture room of the Public Museum, on Thursday the 15th, Friday the 16th, Saturday the 17th, Monday the 19th, and Tuesday the 20th of September. At these meetings the following papers by fellows of the Anthropological Society of London were read.

"The Anthropology of Lancashire." By J. Beddoe, M.D.

"The Ottoman Turks." By J. Beddoe, M.D.

"The Builders of the Megalithic Monuments in Britain." By Mr. A. L. Lewis.

"The Shadows of Genius." By Mr. Walter C. Dendy.

"The Racial Aspects of Music." By Mr. J. Kaines.

"Some Forms of Interment in County Antrim." By T. Sinclair Holden, M.D.

"The Manx of the Isle of Man." By Richard King, M.D.

"On Blight in Man and in the Animal and Vegetable Kingdoms." By Richard King, M.D.

"The Physical Characteristics of the Australian Aborigines." By Mr. C. Staniland Wake.

"The Mental Characteristics of the Australian Aborigines." By Mr. C. Staniland Wake.

On Tuesday the 21st of September, a meeting of the General Committee was held to fix the next place of the meeting of the Association,

and to appoint its officers for the ensuing year; and it was resolved that the Association should meet in 1871 at Edinburgh, under the Presidency of Sir James Thompson. Dr. Beddoe, the President of this Society, was elected a member of the Council of the Association. Brighton was fixed as the place of meeting for 1872.

Before the last meeting of the General Committee, on Wednesday, the 22nd September, your delegates met to consider whether they should give notice of a motion, to be made at the 1871 meeting of the Association, for the formation of a separate section of Anthropology and Ethnology. The conclusion they unanimously came to was that, considering the manner in which the claims of the science, represented by this Society, had been met, and that Dr. Beddoe had been elected a member of the Council of the Association, thus furnishing a guarantee that the permanent recognition of Anthropology by the British Association had been obtained, such a step was not desirable. In this Dr. Richard King agreed with them. Unfortunately Dr. Beddoe left Liverpool before the close of the meeting of the Association, but he has since expressed his concurrence in the propriety of the course thus proposed to be adopted.

Your delegates cannot end this report without acknowledging the admirable and courteous manner in which the proceedings of the department of Ethnology and Anthropology were conducted by Mr. John Evans, F.R.S., F.A.S.L., who presided over its sittings, and to whom they do not doubt the formation of a separate department of Ethnology and Anthropology was in great measure due.

In conclusion, your delegates think that this report furnishes a fitting means of drawing the special attention of the Fellows of the Anthropological Society to Section 2 of the new rules, relative to the constitution of the General Committee of the British Association. The number of gentlemen who will, *in future*, be admitted to the General Committee by virtue of a purely scientific qualification will no doubt be considerably reduced. Those admitted will, however, become *permanent* members of the General Committee of the British Association, and from the use of the term "*new claims*," it would seem, that gentlemen who have already sat on that committee by virtue of a scientific qualification will again be admitted, as of course. To prevent all question, however, and in order that the interests of Anthropology may be properly represented in the British Association, it is advisable that all Fellows of the Anthropological Society who possess the necessary qualification should, as soon after July 1st, 1871, as possible, send in their claims to be placed on the General Committee.

Your delegates would also impress upon the Fellows of the Society, that the only way to maintain and improve the position accorded to Anthropology by the Association is to prepare for the next meeting such a number of good scientific papers as *must* command respect and attention.

Dated the 1st October, 1870.

C. STANILAND WAKE, *Director*.

A. L. LEWIS.

J. KAINES.

To the Council of the Anthropological Society of London.

Dr. RICHARD KING, Sir DUNCAN GIBB, Dr. CARTER BLAKE, and Mr. AVERY, spoke on the Report.

Dr. CHARNOCK then resigned the chair to Mr. Dendy, and read a paper on "The People of Marken." [This paper appears in the *Journal of Anthropology*.]

The discussion on Dr. Charnock's paper was sustained by Sir DUNCAN GIBB, Mr. DENDY, Dr. BLAKE, and Mr. LEWIS.

Dr. CHARNOCK, in answer to Sir Duncan Gibb, Dr. Carter Blake, and other speakers, said he was not aware that the Markeners had any dislike to the people of the mainland; but it was a fact that the former seldom intermarried with the latter, and that the proportion of such marriages was not more than that stated in the paper. He did not say that the Markeners were giants, but that the Dutch people so put them down, and they were certainly very considerably taller than the latter. The name of the island, as mentioned in the paper, was probably derived from a district on the mainland. The word in most Teutonic languages would mean "limit," "boundary," or "border." The people of Marken were probably descendants of the Frisabones. The Batavi occupied the district between the Waal and Maas above their junction, and the island formed by the arm of the Rhine, the Waal, and Maas, after their junction, and the ocean, which island now forms part of the province of South Holland; but a large part of the Batavi were slain in the Roman armies, and the rest were either transplanted by the Romans, or became blended with Franks, Saxons, and Frisians. Indeed the name of this people was nearly obliterated in the fifth century. In ancient times, the Frisii not only occupied what is now called Friesland, but also the present provinces of Oberyssel, Gelderland, Utrecht, and Groningen, the country now covered by the Zuider Zee (which was then nearly all dry land), and the province of North Holland, which in Lubach's map is marked "*Frisabones*." The Frisabones probably had the last part of their name from some river (perhaps the IJ), anciently called the *Abon* or *Avon*. In like manner another tribe, the *Sturii*, were so called from living near water (Celtic *stour*), and the *Marsatii*, or *Marsäci*, were so named either from dwelling on a lake, or on the sea coast (*mere-sætas*).

Mr. A. ERNST, Loc. Sec. A.S.L., contributed "Notes on some Indian Remains found in Venezuela".

I. During one of the heavy rains in the last year a temporary torrent discovered, in a street of the place called El Valle (three miles south from Caracas), the burial spot of an Indian. The skull and other remains were lost, but a collar of white teeth-like bodies was secured, and presented to the Sociedad de Ciencias Físicas y Naturales by Señor Alvarez, C.M., residing in that place. It is formed of forty-six pieces, of the size and shape indicated by a sketch exhibited, looking like soft white lime-stone. Their texture is very distinctly lamellaceous; the lamellæ being visible on the convex and concave side. It is pure carbonate of lime, dissolving without any residue in diluted muriatic acid. When examined under the microscope, after a convenient preparation, the lamellæ showed the singular structure of the Guayacan wood, easily to be recognised by the diagonal intercrossing of its

fibres. The wood being a known and prized remedy among the Indians, it is not improbable that it was wrought into pieces of apparel, or perhaps also used as a kind of talisman. *Guajacum officinale*, L., is common in the *tierra caliente*, and known under the name "Vera." The region of El Valle contains much lime, and so the collar was completely petrified.

II. In one of the sessions of the Sociedad de Ciencias Físicas y Naturales of Caracas, Dr. Manuel V. Díaz presented to the Society five small earthen figures, which had been sent to him by Dr. Gabaldon of Mérida. It was stated that they had been taken from a burial-cave near Boconó, not far from the town of Trujillo, in Western Venezuela. I hope to get further information about that interesting place, as I have invited some friends residing in the neighbourhood to explore the cave carefully, and to send to Caracas skulls, and other remains, which might be found.

It is known that the country round Trujillo was formerly inhabited by the *Tostos*, *Escuques*, *Cuicas*, and *Timotes* (A. Codazzi, *Resumen de la Geografía de Venezuela*, Paris, 1841, p. 256, and Waitz, *Anthropologie* iii, 385). Codazzi is probably right in bringing these tribes together with those inhabiting the mountains of Mérida, and supposes that they all spoke dialects of the Muisca language, from the circumstance that the sounds *b*, *d*, *z*, which are said not to exist in the Muisca, are also wanting in all original local names known from that country. (?)

Waitz (quoting from Piedrahita, xii, 5) mentions that the *Cuicas* and *Timotes* had in their temples *idols made of clay* and wood, which they adored by offerings of cotton, precious stones, and butter of cocoa.

I have little doubt that the figures found in the cave at Boconó are the work of one of these tribes; and I believe them, therefore, interesting enough for being the object of a detailed description.

The larger is 17 centimetres high. The head is extraordinarily flattened from face to back, forming on the top a very narrow stripe (14.5 centimetres long), covered with what appears to be a plaited ornament, and running out on each side in a blunt point. The ears are well marked, and have large holes for earrings. The eyes are indicated by two deep impressions on either side of the nose, connected by a flat channel, so that the spherical form of the eyeball is tolerably visible. The throat is very short, and 7 centimetres from the vertex. The arms are comparatively small, resting on the thick and prominent thighs, but the hands are not visible. The feet are short, and show clearly the five toes. There is on the upper part of both legs a circular outcut, like a ring, and in the breast are two holes. On the hind part of the head, close to the upper margin, is another hole, leading into the hollow interior of the figure, which contains some small pebbles, or coarse grains of sand, so that the figure produces a rattling noise when shaken; just as the native instrument known under the name of *maraca*. The larger figure represents a female. A cross on the forehead is of very recent origin, probably scratched by the finder, who, as a good christian, must have been anxious to exorcise these remnants of devilish heathendom.

The second figure is smaller, (13 centimetres high), and represents a man. Its shape is the same in every respect but for the eyes, which are less carefully made. It shows, besides, more clearly than the other one, the painting it is covered with, consisting of a great number of blackish diagonal stripes, intercrossing each other in oblique angles.

The clay used for these figures contains much mica ; the workmanship reveals some practice, and indicates a relatively advanced condition of the makers.

The photograph I send with this note gives a front view of the larger figure, and a back view of the smaller.

In the same cave were found numerous hatchets (?) of porphyritic diorite, in the shape of half a Malta cross, 22 centimetres long, and 8 broad.

Caracas, 18th April, 1870.

The announcements for next meeting having been made, the meeting adjourned.

Nov. 15TH, 1870.

DR. R. S. CHABNOCK, V.P., IN THE CHAIR.

THE Minutes were confirmed.

R. H. Adam, Esq., and David Kinloch, Esq., of Old Calabar, West Africa, were elected Fellows.

The list of presents was read, and thanks were voted for the same.

FOR THE LIBRARY.

From the AUTHOR—*Les Emanations ; Nouvelle Théorie sur la Formation des Comètes ; Storia della Casa d' Austria ; Le Creation et ses Mystères dévoilés.* By A. Snider-Pellegrini.

From the INSTITUTION—*Journal of the Royal United Service Institution*, vol. xiv, No. 9.

From the SOCIETY—*Transactions of the Royal Society of Literature*, vol. ix, part iii.

From the SOCIETY—*Proceedings of the Society of Antiquaries of London*, vol. iv, No. 8.

From the AUTHOR—*Dell' Indice Cefalospinale dell' uomo e nelle Scimmie Antropomorfe e del Metodo per determinario ; Di un Caso di Singolare Microcefalia in una Donna.* By Professor Paolo Mantegazza.

From J. F. COLLINGWOOD, Esq.—*The Origin of Matter and its Mental Government.* By R. Laming, M.R.C.S.

From the SOCIETY—*Proceedings of the Royal Society*, vol. xix, No. 123.

From the INSTITUTION—*The Canadian Journal*, vol. xii, No. 6.

From the Hon. E. G. SQUIER—*Report on the Management of Indians in British North America by the British Government.*

From Dr. ROBERT PEEL—*Woolner Vocabulary.*

FOR THE MUSEUM.

From Dr. ROBERT PEEL—*Three Skulls of Australian Aborigines and Half-Caste, and two flint implements.*

MR. C. H. E. CARMICHAEL, delegate of the Society to the International Congress at Bologna, read the following communication :

To the President and Council of the Anthropological Society of London.

Although the disturbed state of the Continent, arising from the Franco-Prussian War, has caused the postponement till October, 1871, of the 5th Session of the International Congress of Anthropology and Prehistoric Archæology, and prevented my fulfilling the mission with which the Council had entrusted me, yet I hope to shew that my visit to Italy was not altogether fruitless of information. When I first reached Bologna, in time for the Congress had it been resolved to hold it, Professor Capellini, the Secretary of the Committee of Organisation, was absent. I therefore determined to return to Bologna by the time when he was expected to be at home. When we met the greeting that I received was most cordial, and I am sure all English members of the Congress who may take part in next year's session, will find an equally warm welcome. In company with the Professor I visited not only the geological and palæontological collections belonging to the university, but also the rooms set apart for the Italian Exhibition of Anthropology and Prehistoric Archæology, in aid of which the government has lately made a donation of 15,000 francs. I am glad to be able to report, what indeed was to be expected from the exertions of one so devoted to science as Professor Capellini, that whether in respect of light, space, or contiguity to the seat of the Congress, the rooms selected for the Exhibition leave nothing to be desired. It may be well to add, for the sake of those who contemplate attending the session of 1871, that the enforced delay will be a positive gain to the Exhibition, which will be enriched by several collections that would not have found a place there this year.

It may probably interest the Society to know, that excavations are being carried on in various parts of Italy, both at the Campo Santo of Bologna, where a stratum of Etruscan interments was lately discovered underneath the mediæval and modern strata, and also at the Leucadian promontory, where Professor Capellini said that traces of cannibalism had been found. Of these excavations I am promised further details, which I shall at once communicate to the Society.

I enclose a copy of the "Règlement," and list of members of the Congress, and hope next year, if still honoured by the confidence of our Society, to present matter more worthy of consideration.

CHAS. H. E. CARMICHAEL, M.A., F.A.S.L.,

Delegate to the International Congress.

London, 31st October, 1870.

The following paper was read:—

Observations on the Condition of the Blood-Corpuscles in certain Races,

BY R. H. BAKEWELL, M.D.

The following very scanty and imperfect observations on the condition of the blood-corpuscles in certain races of mankind, have only been brought under the notice of the Anthropological Society at the request of Dr. J. Barnard Davis, F.R.S., to whom the writer mentioned, in the course of conversation, what he had seen. Unfortunately the writer's eyesight began to fail him for microscopical

purposes, when the observations were still so imperfect and incomplete that he has to apologise for bringing them forward.

When investigating the symptoms and pathology of malarious fevers, the writer made numerous microscopical examinations of the blood both of the sick and the healthy. In Trinidad, owing to a very large immigration of people of various races, we have opportunities of seeing the effects of disease on Europeans—English, French, and Portuguese, besides a few Italians, Germans, and people of other nations—on Asiatics, including the different races that inhabit our Indian dominions, and Chinese; on Africans, that is, natives of Africa landed from captured slavers, and free immigrants; on Africans by descent but West Indians by birth; on Creoles of pure white descent, and of every shade of colour; and of mixed negro and Chinese; negro and Indian; Spanish and Indian; and others too numerous to recapitulate.

I soon found, in the course of these investigations, that besides the difference produced directly by disease, in the number, colour, and form of the blood-corpuscles, there were well-marked differences among the different races. For example, I found that between the blood of the flesh-eating Mussulman and the Hindoo, although coming from the same place, there was a marked distinction. The Hindoos' blood contains a much larger number of white corpuscles; the red corpuscles are smaller, less numerous, not so round in outline, the edge being sometimes almost stellate, or serrated, whilst they never, so far as my observations went, ran together like rouleaux of coin. Now it is well known that this phenomenon is described, in all books on physiology, as a characteristic of healthy human blood. The red corpuscles of the Hindoo, however, run together edge to edge, but not side to side, and thus form, under the microscope, a flat mass. This often, when the patient is weakly, or has had intermittent fever, becomes a sort of "squashy" mass. I must apologise for the term, but it is the only one which describes the appearance presented. It seems as if the weight of the thin glass cover had crushed the corpuscles into one flat mass, in which the separate corpuscles could no longer be distinguished. In noting down my observations I was obliged, for brevity's sake, to give a name to the phenomenon of aggregating like rouleaux of coin, I therefore call it "nummulating." A defect or absence of this power is found in all persons whom I have examined, who have been for a long time subject to malarious fevers.

The Hindoo's blood is marked by the characteristics above mentioned; the Mussulman's much more nearly approaches the normal standard. It nummulates rapidly and completely. The red corpuscles are well formed, much more numerous, and better shaped than in the Hindoo, and the blood is redder and thicker. So characteristic are the appearances presented, that being in conversation with the surgeon of a recently arrived immigrant ship, having Indians from Calcutta on board, as he seemed rather incredulous, I offered to take my microscope down to the immigrant depôt, and tell him from the appearance of the blood which were Hindoos and which Mussulmans. This I did, and if I recollect right, without a single mistake. He was very much astonished.

The blood of the recently arrived European is generally rich and good, and affords a great contrast to the Hindoo, but after a time it deteriorates; it no longer nummulates, but forms squashy masses, and if the spleen is enlarged there will be too many white corpuscles.

The following notes of the appearance of the blood of two Europeans, who had resided the same time in the colony (about two years), one of whom had constantly had intermittent fever, and the other had never had it, may be contrasted with the note of the coolies, and the negro.

R. H. B. Male, aged 37. Has had much intermittent fever. Lives well. Red corpuscles numerous, normal colour; not nummulating, but forming irregular masses. White corpuscles about normal.

A. B. Female, aged 30. (No fever.) Blood normal. Red corpuscles nummulate well. No white visible.

Coolie (Hindoo). Blood very pale. Red corpuscles do not nummulate at all. White corpuscles form one-fortieth of the number on the field. Edges serrated.

Charlotte, a Coolie girl, brought over at the age of three, and educated as a Christian [*i. e.*, a flesh eater]. Age now about 20. Red corpuscles abundant, but not nummulating; squashy. Too many white corpuscles. Is a cook, and therefore lives well.

Charles, a negro, about 16. Ill fed, and rather thinner than is a thoroughly healthy negro. Red corpuscles numerous, well formed, nummulating perfectly and rapidly.

The blood of the negro, resident even in the most malarious localities, if he is only tolerably well fed, is a rich red; crowded under the field with red corpuscles, much more numerous than the white man's, and these red corpuscles nummulate with extreme rapidity. Their form is always perfectly circular. The Chinese approach the negro very nearly, but my observations on them are very few.

The coloured creoles have, when healthy, blood which approximates, more or less, to that of the negro. I have never, either at home or in the West Indies, seen the blood of a pure white so rich as that of a negro. I once thought I had, but I found out afterwards that the subject of the experiment was really a light quadroon. It is to this richness of the blood that I feel inclined to attribute their much greater insusceptibility to the malarious poison than the white possessors.

I may mention that I probably examined the blood of about a hundred different persons.

DR. CARTER BLAKE said that Rokitsansky, Hefe, Simon, and Gulliver, had written much on the subject, but he was not aware that the character of non-nummulation, assigned by Dr. Bakewell to the vegetable feeding Hindoos (and other races), had been previously formulated as the distinctive character of any race. He thought that the presence or absence of white or red corpuscles might be due to the food of the subject, but that the character of "serration," assigned by Dr. Bakewell to the Hindoo, was, if an accurate microscopical observation, undoubtedly a race character. Dr. Bakewell, however, as far as he thought, did not allege that microscopical characters

were, *ipso facto*, a test of race, but rather of food, health, and other conditions.

Mr. C. STANILAND WAKE, Director A.S.L., read a paper on
Tribal Affinities among the Aborigines of Australia.

In two papers recently read before the British Association, I sought to establish the special physical and mental characters of the Australian aborigines. In the course of the inquiry it appeared that all those characters were consistent with the existence of but one race throughout the entire continent of Australia. In the present paper I wish to ascertain whether this conclusion is supported by the evidence furnished by other data, connected chiefly with what may be termed art progress, and also whether these data tend to show that the aborigines of the continent have any special tribal affinities among themselves. The latter point is the more interesting, because several writers have endeavoured to trace the course of the supposed migratory movements of the various tribes from a common starting point. Thus Com. Stokes, from a consideration of the distribution of certain special characters, thinks that Eastern and Western Australia were once divided by water, and that by this channel customs were transmitted from the North to the South of the continent (p. 297). Mr. Eyre, again, by reference to the distribution of the customs of circumcision and tooth removal, came to the conclusion that Australia was first peopled on the north-west coast, from which point three great divisions spread throughout the continent, one of these proceeding to the west and south-west coasts, another through the centre of the continent to the south coast, and the third to the Gulf of Carpentaria, and thence to Fort Bourke, on the Darling (vol. ii, 405 et seq.). How far this opinion is correct we shall be better able to judge when we have considered the various phenomena reserved for comparison in this paper.

Habitations.—We will begin the comparison of what may be called the “manufactures” of the Australian aborigines by reference to their habitations. The native huts are of several varieties, but the most common is *semicircular*, of the form of an oven, or beehive, made of bark, or of bent twigs covered with bark, leaves, or grass, and about four feet high. This was the character of the huts seen by Stokes in Depuch Island, on the north-western coast (vol. ii, p. 169); by Freycinet on the coast of Endracht Land in the west (vol. i, p. 481); by Cook along the eastern coast;* and of those described by Mr. Eyre as being used by the natives of South Australia (vol. i, p. 302). The description given by D’Urville of the huts at Jervis Bay,† and by Collins of those of the Port Jackson natives (vol. i, p. 255); by Oxley of the huts at Moreton Bay;‡ and by Sturt of those at Cooper’s Creek (vol. ii, p. 74), show them to be of these same form. Similar huts are referred to also by Sir George Grey as having been seen in North-Western Australia, but these were of a superior character, being made of logs.

* Pinkerton, *Voyages and Travels*, vol. xi, p. 558.

† *Hist. Gen. des Voyages*, vol. i, p. 363.

‡ Barron Field, *Geographical Memoirs of New South Wales*, p. 57.

Other native habitations seen by Commander Stokes on Bathurst Island, in the Gulf of Carpentaria, were of a different description. The framework "consisted of stout poles from fourteen to sixteen feet high, which were brought together conical at the roof, which was thatched with dried grass, so as to exclude both wind and rain" (vol. i, p. 172). No doubt the conical huts seen by Captain King on North Goulburn Island were of this character, although much smaller, they being only three feet in height. The latter were covered with bark and sand; and Dr. Leichhardt says that the huts he saw in the bed of the Van Diemen River, and further south-west, were of a similar description (p. 327, p. 331, *note*). Probably the "snug oval-shaped huts, thatched with coarse grass," seen by Stokes at Van Diemen's Inlet, in the Gulf of Carpentaria, were of the same kind (vol. i, p. 296), as were also, apparently, those used by a tribe met with by Sir Thomas Mitchell, on the Glenelg River, in New South Wales. The huts of this tribe were found to be of a "very different construction from those of the Aborigines, in general; being large, circular, and made of straight rods meeting at an upright pole in the centre. The outside had been first covered with bark and grass, and then entirely coated over with clay. The fire appeared to have been made nearly in the centre, and a hole at the top had been left as a chimney" (ii, p. 194). Captain Sturt describes huts seen by him near Hood's Creek, beyond Lake Blanche, in South Australia, which, although not conical, were made in the way thus described. He says that they were different from any he had before seen. He mentions also the peculiarity that each hut had a smaller one attached to it (i, p. 254). This peculiarity was observed by Sturt among the tribes near Cooper's Creek, further to the north-east, whose huts were more solidly built than those of the Darling and Murray tribes, although apparently not very different in form (ii, p. 189).

A third kind of hut, sometimes met with on the north coast, and in the east, may be described as *oblong*. At Careening Bay, in the north, Captain King found several different forms in use; those on the shore being for temporary habitation, whilst others on the hill near were of a more substantial construction. The ends of one of these were formed of stones, which had saplings laid across to support a covering of bark, or dried grass (i, p. 431). Sir Thomas Mitchell, in his expedition towards the Gulf of Carpentaria through Queensland, found huts near the Nive River which were "of a more substantial construction, and also on a better plan than those usually set up by the Aborigines of the south. A frame like a lean-to roof had first been erected; on this rafters had next been laid; and upon these square portions of bark, like tiles" (p. 319). Of this shape, although not so strongly built, are the huts of the Melville Islanders, described by Major Campbell. These consisted "of a single sheet of bark, formed into a shed, or mere roof, open at each end. . . . The interior space was four feet and a half long, three in width, and three feet high." These huts, however, were luxuriously furnished with rolls of soft silky bark for seats and pillows. At Beagle Bay the only approach to a hut seen by Commander Stokes was in

* Earle's *Papuans*, p. 207.

the form of a "slight, rudely thatched covering, placed on four upright poles, between three and four feet high" (i, p. 101). The two storied *gunyahs*, met with by Dr. Leichhardt near the Lynd and in the country lying round the Gulf of Carpentaria, probably originated in the use of the flat roof as a sleeping place, a curved bark covering, such as composed the ordinary *gunyahs* on the Lynd, being put over it (p. 290). Between Morning Inlet and Port Denison, McKinlay found raised platforms evidently used for sleeping places, but without any covering (p. 105).

These simple constructions are closely related to the wind-screens used on various parts of the coast, chiefly at the north and west. Thus among the buildings seen by Capt. King at Careening Bay was one, consisting of a simple slanting back supported by two uprights, but quite open at the front and sides (ii, p. 431). Péron says that the dwellings on the Western coast visited by him, were simple screens against the wind, formed of the bark of trees. These screens were, however, of a semi-circular form,* and they may perhaps show the first approach towards the circular hut. Dampier asserts that the inhabitants of the islands of the Archipelago named after him, and of the adjacent mainland, had no dwellings, and merely set up a few boughs before them to keep off the wind (i, p. 464, 467).

Canoes.—The canoe bears the same relation to water as the hut does to dry land, except that their positions are reversed, and that the former moves while the latter is stationary. The shape is different, but not necessarily so, and if "the strips of bark bent over to form a shelter from the sun," seen by Captain King at Careening Bay (i, p. 43), were inverted, and the ends sewn up, they would closely resemble the primitive Australian bark canoe. The inhabitants of the islands in Dampier's Archipelago, who have no huts, have no means of progression in the water, except by swimming. Dampier says that they have no boats, canoes, or bark-logs (i, p. 468). The same thing appears to be true of the natives of King George's Sound at the south western corner of the Continent, who, according to Captain King, have no canoes and are somewhat afraid of the water (ii, p. 122). In fact, the canoe is seemingly unknown along the whole western coast. Oldfield says that "the natives about the Murchison, and also those living hundreds of miles away from that river, possess no boats of any kind".† Commander Stokes states that he did not see the least evidence of the use of the canoe between Port George the Fourth and Roebuck Bay, and that nothing but the *raft* was noticed south of Clarence Strait, the western boundary of the northern coast (i, p. 89). Flinders, indeed, said that the natives of a small island in the Gulf of Carpentaria had slight rafts instead of canoes, and Captain King refers to the floats "consisting of five mangrove stems, lashed together to a frame of smaller wood," used instead of canoes, by the natives near Hanover Bay (ii, p. 65). Few of the Australian tribes that possess canoes have advanced beyond the use of bark in their construction. Captain King saw in Knocker Bay, near Port Essington, superior bark canoes resembling those of the natives

* Pinkerton, xi, p. 837.

† *Trans. Eth. Soc.* (1865), p. 254.

of Blue Mud Bay, in the Gulf of Carpentaria, as described by Flinders (i, p. 90). It is possible, however, that these, like the canoes used by the natives of the Coburg Peninsula, as mentioned by Commander Stokes, are obtained from the Malays, although this is hardly probable, judging from the superior construction of the Melville Island canoes as described by Major Campbell.* Commander Stokes when proceeding up the Adelaide River met natives in a very pretty bark canoe, fifteen feet long, and about two feet deep (i, p. 423). On the other side of the Continent, in South Australia, we find bark canoes twenty feet long and capable of holding seven or eight people. Here, however, the spear is used for a paddle.† It is strange that, according to Flinders, the Port Lincoln natives had no canoes (i, p. 246), although Cook found them in use along the whole length of the eastern coast. These were usually about ten feet long, holding four persons,‡ and were propelled by paddles, about two feet in length and two inches broad at the blade,§ except in shallow water when these were propelled by long poles. This eastern coast canoe was made only of the bark of a tree bent and tied up at the ends, and it was probably not much better than those of Rockingham Bay, in the north east, which were described by Captain King as being very fragile and paddled with small strips of bark (i, p. 200). The raft of the north-western coast is replaced in the north-east by the hollowed log. Cook noticed that the canoes in the latter locality were formed by hollowing out the trunk of a tree, apparently by fire; and he said that they were so narrow that "they would often be upset, if it were not for the outrigger with which they are provided." Mr. Baines, in referring to the canoes of the north-eastern coast says, that some were of very rude construction, "being in fact mere logs capable of carrying a couple of men. . . . Others were of greater size and power, being large hollowed logs, very straight and narrow, and steadied on either side by other logs, pointed at the ends, and acting as outriggers, neatly enough attached by pegs driven into them through a framing of bamboo. Others again were strictly double canoes, two of the narrow vessels being connected by a bamboo platform so as to be parallel to each other at some little distance apart."|| Whether or not the outriggers and double canoes of the north-eastern coast have been, as is usually supposed, derived from the Pacific Islands, it is difficult to determine. Certainly, this is the only part of the Australian Continent in which the bow and arrow are used.

Weapons.—A reference to the weapons of the Aborigines may fitly be made here, and the purpose I have in view will be the best attained by taking the most important of them in order and showing the range of their use. The *spear* is employed, so far as we know, among all the tribes, the statement made by Oxley, that the only weapon *seen* among the natives on the banks of the River Tweed, in Queensland, was a wretchedly formed stone hatchet,¶ amounts to little. The spear itself, however, sometimes varies in the form of its

* *Loc. cit.*, p. 206.

† *Loc. cit.*, p. 534.

‡ *Wood, Natural Hist. of Man*, ii, p. 7.

† Eyre, i, p. 314.

§ *Jour. of a Voy., etc.*, 1771, p. 111.

¶ *Loc. cit.*, p. 39.

head. Most of the tribes understand the hardening of the wooden tip in the fire, and few of them, apparently, are without the barbed spear. The natives of Shark's Bay, however, use a form of spear, "from fourteen to sixteen feet long, and with eight to twelve pairs of large barbs formed from the solid wood;" which is more powerful, says Oldfield, than any spear to be found elsewhere on the Continent (p. 262). The natives of Melville Island, however, have a similar spear, and also a special war-spear, sharpened at both ends, called *yugo*.^{*} Flinders states that the inhabitants of a small island in the Gulf of Carpentaria had very rudely made spears (ii, p. 138), but it is not far from this spot, at Port Essington and on the northern coast, that the most formidable of these weapons are used. Mr. Wood figures two spears from the former place, which are beaded with chipped flints nearly as large as a man's hand.[†] These are evidently intended for use as pikes (ii, 38, 40.) Cap. King mentions that among other articles taken from natives in Hanover Bay was "a bundle containing several stone spear heads, about six inches long, curiously worked, and with both edges serrated" (ii, p. 66). The only other form of spear that need be particularised is the long, heavy weapon, with bamboo at one end, seen by Mr. Stuart in the possession of the natives at Hayward Creek, and which they had evidently got from the northern coast.[‡] The *throwing stick* is apparently not so universally known as the spear, although its use is very widely spread. If we begin with the small island in the Gulf of Carpentaria, already mentioned as having been visited by Flinders, we find that this instrument was there known (ii, p. 238). It is employed, says Stokes (i, p. 393), by the natives of the Coburg Peninsula, although not by those of the adjoining Melville Island;§ by various tribes in the neighbourhood of Shark's Bay, mentioned by Oldfield;|| at Swan River, and still further south at King George's Sound; it is used, moreover, in some parts, at least, of South Australia,¶ although not mentioned by Mr. Eyre; on the south-eastern coast where visited by Cook,** in Queensland; and, to return again to the north, by the natives of the York Peninsula, and those of Hanover Bay, seen by Capt. King. In the interior the throwing-stick was seen by Stuart among the natives at Bishop's Creek (p. 205), and apparently among the desert tribes near Cooper's Creek, whose weapons are described as being "similar to those ordinarily used by natives of other parts of the Continent" (p. 138). It was found also by Leichhardt among the natives near the South Alligator River (p. 492). Being thus so widely spread, we may be almost inclined to believe that it is used throughout the whole Continent. Sir George Grey, however, on the authority of Mr. Usberne of the Beagle, asserts that it is not known at Roebuck Bay, while it was not seen by Commander Stokes at Villaret (i, p. 72), nor by Captain King among the natives near the Bowen River (i, p. 356). Flinders declared that the throwing-stick was not used by the natives of St.

* Earle, p. 205.

† See also King, i, p. 86.

‡ *Explorations in Australia*, p. 442.

§ Campbell, *loc. cit.*, p. 205.

|| *Loc. cit.*, p. 262.

¶ Wood, ii, p. 43.

** *Loc. cit.*, p. 554.

George's Sound, but this is now known to be incorrect, and other travellers may possibly be as much in error as Flinders. The fact of its not being seen is no real proof of its non-existence.

The use of the *boomerang* is certainly not universal throughout the Australian Continent. It is said by Stokes (i, p. 393) to be not used, for instance, by the natives of Melville Island nor by the Port Essington tribes, although it is known, as we learn from Mr. Eyre (i, p. 307), under the name of *kiley* to those of Western Australia, as the *wagno* to those of the south, and as the *boomerang* to the eastern natives. Captain King says, however, that this weapon was not seen at King George's Sound (ii, p. 122), nor was it among the articles taken at Hanover Bay by this explorer (ii, p. 66). It was found, nevertheless, at the Bowen River, although of a smaller size than that used by the Port Jackson natives (i, p. 356). The boomerang is also known to many tribes in the interior of South-Eastern Australia. Thus it is employed on the Murray River,* and, judging from the language of Mr. Stuart (p. 138), amongst the tribes in the neighbourhood of Cooper's Creek. Stuart found it also further inland, near Mount Hamilton, north of Chamber Creek (p. 131), and towards the centre of the Continent, north of Hayward's Creek (p. 216); while Leichhardt saw the same weapon among the natives near the Macarther River (p. 413).

It is not necessary to refer particularly to the short throwing club, the *waddy* or *dowak* (called *bwirri* in South Australia), which is the most ordinary weapon of nearly all the Australian tribes, or to the larger club, preferred by the Port Essington tribes,† and which is possessed also by the natives of New South Wales.‡ The use of the *wooden-sword* appears to be very partial, and confined, according to Mr. Oldfield, to the eastern natives.§ Dampier, indeed, says that the natives of the mainland visited by him had the wooden-sword (i, p. 467), but he may have mistaken the boomerang for this weapon. Mr. Eyre, however, expressly says that the two-edged sword (*katta-twiris*) is used by the tribes to the north of Adelaide (i, p. 308). Stuart found this weapon also among the natives at Bishop's Creek in the interior (p. 205). Its use does not appear to be universal among the Eastern tribes, and although Cook's companion describes it as having been seen on the south-east coast,|| yet how far its use there extends is somewhat doubtful. Little reference is necessary to the *bow and arrow*, a compound weapon used by some of the north-eastern coast tribes, as there is little doubt that, as Mr. Wood supposes (see ii, p. 47), it has been derived from a Papuan or Polynesian source. This idea is somewhat confirmed by the statement of Flinders that, although the natives at Caledon Bay, in the Gulf of Carpentaria, had not the bow and arrow, yet they understood its use (ii, p. 212).

Death and Funeral Customs.—Probably among no other people are

* Wood, ii, p. 51.

† Stokes, i, 293.

‡ Wilkes, *United States Exploring Expedition*, ii, 192.

§ *Loc. cit.*, p. 266.

|| *Journal of a Voyage*, etc., p. 111.

there so many modes of disposing of the bodies of the dead as those practised by the Australian aborigines. It is impossible to describe these various modes in detail, and I shall, therefore, endeavour to ascertain by comparison whether special forms are found in different parts of the Continent. In Western Australia the usual custom is to bury the body in a squatting position, a small hut of rushes, grass, etc., being erected over the grave, "and on it is placed the arms and personal property of the deceased." For some time after burial, and occasionally during a period of three or four years, a fire is daily lighted on the grave. When women are allowed to die a natural death, they appear also to be buried, but without any particular ceremonies. The graves of children, adds Mr. Oldfield, "are frequent, a heap of stones, without any of the insignia which adorn the burial place of the adult, alone marking the spot, and they are not held in such evil repute as are those of the men" (p. 248). Wilkes says that the mode of burial is much the same among the natives of New South Wales as among those of other parts of the coast, and this mode agrees generally with that already described. Above the grave the excavated earth is placed, forming a conical heap eight or nine feet high. The trees around are marked with incisions and during these operations fires are kept burning near the place, to drive away evil spirits (vol. ii, p. 196). But this is not the only mode of disposing of the dead in New South Wales; as Collins describes the *burning* of the body of a woman. The ashes, however, were collected and a tumulus erected over them by the husband (vol. i, p. 606). In the interior along the courses of the Darling, the Lachlan, and the Murray, Sir Thomas Mitchell found grave mounds, although the burial places were not always alike in form and arrangement (vol. ii, p. 113).

Dr. Lang, on the authority of Mr. Mitchell, one of the Commissioners of Crown Lands, describes a curious mode of dealing with the dead as being practised by a tribe in New South Wales. The body is placed on a raised stage, at the ends of which fires are kept burning. After the flesh has decomposed, the bones and skin are carefully wrapped up, and carried about for some time by the tribe, being ultimately deposited in a hollow log. This agrees well with what Mr. Eyre says of the burial customs of the South Australian natives. Mr. Meyer describes four modes of disposing of the dead as practised at Encounter Bay. Among these, burial is the portion of old people; "middle-aged persons are placed in a tree, the hands and knees being brought nearly to the chin, all the openings of the body, as mouth, nose, ears, &c., being previously sewn up, and the corpse covered with mats, pieces of old cloth, nets, &c. The corpse being placed in a tree, a fire is made underneath, around which the friends and relatives of the deceased sit, and make lamentations. In this situation the body remains, unless removed by some hostile tribe, until the flesh is completely wasted away, after which the skull is taken by the nearest relative for a drinking cup. The third mode is to place the corpse in a sitting posture, without any covering, the face being turned to the eastward, until dried by the sun, after which it is placed in a tree.

* Oldfield, p. 245.

† Queensland, p. 362.

This mode is adopted with those to whom it is intended to show some respect. The fourth method is to burn the body; but this is only practised in the case of still-born children, or such as die shortly after birth" (i, p. 345). Upon the mounds, over the graves of the buried, huts are erected, as in Western Australia, "to shelter the dead from the rain." Mr. Eyre adds that "nets, but not implements, are sometimes buried with the body" (p. 349). The second mode here described is that referred to by Mr. Mitchell as practised in New South Wales, and it is found with some variation throughout a great part of Eastern Australia. Thus, near Lake Alexandrina, the body is placed upon a platform, or bier, upon high poles of pine, put upright in the ground, bandages being first placed "round the forehead and over the eyes, and tied behind. A bone is struck through the nose, the fingers are folded in the palm of the hand, and the fist is tied with nets, the ends of which are fastened about a yard from the hands; the legs are put crossing each other."* Dr. Lang says, as to the Queensland tribes, that, when bodies are not eaten, they are either burned, buried, suspended in trees, or left to decay in the hollows of trees (p. 359, n). These are really the four modes described by Mr. Meyer as practised at Encounter Bay, although probably with some variation in details. Mr. Stuart, in his adventurous journey through Central Australia, saw a large grave mound near the Frew River—about lat. 27 deg. S.—(p. 143), but when he reached Hayward Creek, about eight degrees further north, he found that the natives placed the bodies of their dead in trees, and these suspended bodies were extremely numerous (p. 220). Near Hawker's Creek, Ashburton Range, a small and beautifully made canoe, containing the bones of a child, was seen in a tree (p. 286), and another of the same description was met with at Lawson's Creek, still further north (p. 288). Within a few miles of the coast was a raised frame-work, which Stuart graphically describes as having been used for "smoke-drying a dead black fellow" (p. 404). Finally, Com. Stokes, when on the Flinders River, in the Gulf of Carpentaria, saw a singular looking bundle in the branches of a tree, and this, on examination, was found to contain the decaying body of a native. Some weapons were deposited with the body as in an ordinary burial (p. 296).

The wide spread of this last named mode of burial is certainly remarkable, although it may possibly have arisen independently, and have originated in the difficulty, under certain conditions of soil, of making a grave with the imperfect tools possessed by the natives. This custom, however, sometimes takes a still more curious form. Sir Thomas Mitchell, when near the Balongo River, in the interior of Eastern Australia, saw two women with bundles on their backs, and he found that these bundles contained mummified bodies, doubtless of their dead child.† An analogous custom is not uncommon among various tribes in New South Wales and Queensland, who carry about with them for a considerable time the skin and bones of the deceased; while among the Queensland natives the skin appears to be always

* Eyre, i, p. 345.

† *Jour. of an Expedition, etc.*, p. 109.

preserved for certain superstitious purposes.* Another custom, still more strange, is that of relatives of the deceased preserving his skull and using it for a drinking-vessel. This habit appears to be not uncommon among the South Australian tribes. Mr. Angas has figured one of these skulls, which was carried by a little girl, ten years of age, who thus honoured her mother's memory.† Certainly the most extraordinary mode of disposing of the dead is that detailed, on apparently good authority, by Dr. Lang. He says, that in the interior of Queensland, "the bodies of the dead, whether they fall in battle or die a natural death, are, with the exception of the bodies of old men and women, uniformly eaten by the survivors." Davies, the informant, gave a full description of the proceedings which take place at these cannibal burials, and his testimony is certainly confirmed by that of the Rev. K. D. Schmidt, who says that the natives of Moreton Bay follow a similar practice. Dr. Lang states that Mr. Mitchell has met with this cannibal custom also in New South Wales (p. 355 et seq.) That cannibalism is nearly, if not quite, universal throughout Australia can now hardly be doubted. Mr. Oldfield refers to its existence in Western Australia, in the neighbourhood of Shark's Bay, although practised only as an extraordinary means of satisfying hunger (p. 287). Mr. Eyre says, as to the South Australian natives, that cannibalism is not common among them, "though there is reason to believe that it is occasionally practised by some tribes, but under what circumstances it is difficult to say" (i, p. 255). McKinlay was told by a native that the body of one of the murdered companions of Burke had been taken from the grave and eaten (p. 22). So, Stuart's party found burnt human bones at Howell's Ponds in the far north, this being, says Mr. Stuart, a new feature in native customs (p. 348).

An explanation has been found in cannibalism for the peculiar belief universally entertained by the Australian natives, that white people are black men who have returned from the grave. It is hardly necessary to furnish authorities for the universality of this belief, it being so well established. Mr. Ridley remarks that the natives have everywhere applied to white men the word originally meaning 'ghost,' or 'supernatural being'.‡ The explanation of the notion, as given by Dr. Lang, is that before the body is eaten at the cannibal burials the outer skin is removed, bringing into view the inner skin, which is white or of a light colour (p. 355). White people, therefore, according to this view, are thought to be blacks without their black skins. If this be the real explanation of the belief, the practice of cannibalism must be, or have been, as universal as the belief itself.

The mourning and other customs which follow death are nearly the same among all the native tribes. Sir George Grey says "that the custom of lacerating themselves at burials is found among the aborigines of all parts of Australia. Moreover, many of these natives, when at a funeral, cut off portions of their beards, and singeing these, throw them upon the dead body; in some instances they cut off the beard of the corpse, and burning it, rub themselves and the body with the singed portions of it" (ii, p. 335).

* Lang, pp. 357-8.

† *Savage Life*, p. 68.

‡ Lang, p. 445.

Another custom which is apparently universal throughout the continent, and which has arisen from the belief that death in the vigour of life, without a visible cause, must have been occasioned by sorcery, is that of blood-revenge, this being required also when the deceased falls by the hand of an enemy. The modes pursued to discover the sorcerer vary in different parts of the country,* but they all have the same end. The remarks of Sir George Grey on this subject, as to the western aborigines, will apply to the natives of the whole continent. "The holiest duty," says Sir G. Grey, "a native is called on to perform is that of avenging the death of his nearest relation, for it is his peculiar duty to do so; until he has fulfilled this task, he is constantly taunted by the old women; his wives, if he be married, would soon quit him; if he is unmarried, not a single young woman would speak to him; his mother would constantly cry, and lament she should ever have given birth to so degenerate a son; his father would treat him with contempt, and reproaches would constantly be sounded in his ear." The effect of this *lex talionis* is increased by the application of the principle, "that all the relatives of a culprit, in the event of his not being found, are implicated in his guilt." Until, therefore, the criminal has been despatched, all those of the same family as himself are insecure of their lives, and are compelled to take precautions against attack. This operates, in most cases, to induce all parties to join in pursuit of the murderer. If this is not successful, the pursuers slay any other person they may meet in the land to which the murderer has fled (ii, p. 238). It is now that the great evil of this blood-custom is fully exhibited; for the fresh death must be atoned for, and hence may arise a continued series of atrocities, which may lead to a tribal war, or to the extermination of a family.

The inconveniences of this blood-custom have not been overlooked by the natives themselves, and we find, in various parts of the continent, an attempt made by the less savage tribes to mitigate its evils. Mr. Angas describes the funeral of a boy belonging to a South Australian tribe, which was commenced by a sham fight. "This," says Mr. Wood, "is held in consequence of a curious notion prevalent among the aborigines, that death from natural causes must be ransomed with blood. It suffices if blood be drawn even from a friend, and the mode by which they make the required offering, and at the same time gratify their combative nature, is by getting up a sham fight, in which some one is nearly sure to be wounded, more or less severely" (ii, p. 89.) Collins long since drew attention to this curious practice among the Port Jackson natives (i, p. 602). He says, also, that "the shedding of blood is always followed by punishment, the party offending being compelled to expose his person to the spears of all who choose to throw at him." Moreover, on the death of any person, "the friends of the deceased must be punished, as if the death were occasioned by their neglect" (i, p. 586). Collins gives some curious particulars of this ceremonious blood-drawing, as practised among the natives of New South Wales. In some cases there is a near approach to the European duel; everything being done with the strictest regard

* See a graphic description by Mr. Oldfield, *loc. cit.*, p. 246.

to honour. Mr. Eyre says of the South Australian natives, that at the annual gathering of the tribes "expiation is made in some way for the deaths which have occurred since the last meeting;" for, "as the natives do not often admit that the young or the strong can die from natural causes, they ascribe the event to the agency of sorcery, employed by individuals of neighbouring tribes" (i, p. 219). Sir George Grey refers to the fact of duels with spears taking place in Western Australia, between persons who have quarrelled; but it does not appear from his account that the practice has any relation to the custom of blood-revenge.

Initiatory Rites and Tribal Marks.—To an ordinary reader the question of tribal marks is of little interest, but to an anthropologist it is hardly second to any we have been considering. These marks are connected with the rites of initiation into the privileges of manhood, and they have been used as a test of affinity of the tribes presenting them. Thus Mr. Eyre says: "At the Gulf of Carpentaria the rite of circumcision is performed; at Swan River, King George's Sound, and nearly three hundred miles to the eastward of the latter place, no such rite exists. Round the head of the great Australian Bight, and throughout the whole Port Lincoln Peninsula, not only is this rite performed, but a still more extraordinary one conjoined with it.* Descending the east side of Spencer's and St. Vincent's Gulf, and around the district of Adelaide, the simple rite of circumcision is retained. Proceeding but a little farther to the banks of the Murray, and its neighbourhood, no such ceremony exists, nor have I ever heard of its having been observed anywhere on the south-eastern, or eastern parts of the continent" (i, p. 332). Commander Stokes says that this rite is only performed at the north and south of the continent (ii, p. 2). In this, however, both he and Mr. Eyre are mistaken, as Mr. Oldfield states that it is used by the Angaardies, near the Murchison River, on the west coast (p. 252). Again, Sturt observed it among some natives near Lake Blanche (i, p. 209), in the interior, towards the boundary of the eastern provinces, and also at Mount Hopeless (i, p. 274), and in the neighbourhood of Lake Torrens (i, p. 341). Leichhardt, moreover, found it prevalent as far north as the Macarther River (p. 413), thus bringing it round once more to the Gulf of Carpentaria.

Another custom, which is widely spread, is that of removing one or more of the front teeth from the upper jaw. On the Gulf of Carpentaria Flinders saw natives who had lost two of these teeth (i, p. 137), and others, at Caledon Bay, who had lost only the one on the *left* side (i, p. 212). At Port Essington, according to Commander Stokes, the latter custom prevails (i, p. 393), as it does also on Melville Island.† At Clarence Strait, says Stokes (p. 410), the natives had lost two front teeth; as was also the case with those up the Adelaide River (p. 423). Commander Stokes says, as to the natives between Port George IV and Roebuck Bay, that in some cases only they want the two fore-teeth in the upper jaw; and while in any one tribe in which the custom prevails it seems to be unanimous, it

* Mr. Eyre adds, in a note, "*funditus usque ad urethram à parte inferâ penis.*"

† Campbell, *loc. cit.*, p. 200.

does not appear to be by any means universally diffused along the whole north-western coast (i, p. 88). At Beagle Bay only one tooth is extracted (i, p. 92), and the custom appears to be altogether wanting among the tribes of the western and southern coasts. It reappears, however, according Mr. Angas (p. 216), in South Australia, and also in New South Wales. A very graphic illustrated description is given by Collins, of the initiatory ceremonies practised by the Port Jackson natives, among which is the removal of one of the front teeth (i, p. 565, et seq.). Dr. Lang says that the natives of Queensland perform exactly the same initiatory ceremonies as those described by Collins, except that they do not suffer the loss of a tooth (p. 342). He adds, however, that even this is sometimes removed, and he thinks that this custom, with others to be mentioned, were at one time known to the Queensland tribes (p. 344). At this time, at least, it appears to be unknown to any of the north-eastern coast tribes. McKinlay, however, met with it at Morning Inlet, towards Port Denison (p. 101); Sir J. Mitchell on the Darling (i, 218, 258); and Leichhardt near the Mackenzie River (p. 110)—the left front tooth having been removed in this case, as among the Caledon Bay natives. The custom appears again in the north-eastern part of South Australia; the natives seen by Sturt near Mount Hopeless (i, p. 274), having lost the right upper tooth, while those near Lake Torrens (i, p. 341), and at Cooper's Creek (ii, p. 61), wanted two of the front teeth.

A third practice of this nature, which is very common throughout Australia, is the boring of the septum of the nostrils, for the reception of an ornament. This custom is almost universal among the tribes of the Coburg Peninsula and neighbourhood, and the adjoining Melville Island.* Commander Stokes observed, at Clarence Strait, a boy with a thin stick two feet long through the cartilage of his nose (i, p. 410.) The natives, at both Shoal Bay and Point Emery, also practise this rite, but it is said not to be known to those along the western coast. This may be open to question, however, as Mr. Oldfield, who writes about the Shark's Bay and Murchison River natives, says that "the practice of boring the septum of the nostrils is common all over New Holland, and is generally performed after matriculation" (p. 252). All the natives seen by Mr. Eyre, from the Port Lincoln Peninsula to the Great Bight, had undergone this operation (i, p. 318); and Péron met with the same custom at Port Western, in South Australia.† Among some of the south-eastern tribes nose-boring is practised for both sexes,‡ and Collins says, that at Port Jackson the nose-bone, or reed, was the principal ornament of the men, and was sometimes used by the women, the small leg-bone of the kangaroo being usually chosen (i, p. 552). At Moreton Bay—if we may believe Barron Field's informant, Oxley (p. 61)—the performance of this operation is an hereditary privilege. Cook seems to have found it to be practised all along the eastern coast;§ and his companion voyager states that in the north-east bones were worn in the ears as well as in the nose.‡ Captain King observes that natives at Rockingham Bay had

* Earle, pp. 199, 215.

† Angas, p. 225.

§ *Journal of a Voyage, etc.*, p. 122.

† *Loc. cit.*, p. 900.

§ *Loc. cit.*, p. 555.

the septum pierced, but no ornament was worn there (i, p. 200). It is curious that this custom, if we may judge by the absence of reference to it by travellers, is almost unknown to the interior tribes. The only mention of it I have met with is in the case of a boy seen by Leichhardt in his overland journey to Port Essington (p. 349).

The practice of making embossed cicatrices on the skin is more generally prevalent among the Australian aborigines than any of the preceding customs. It is found among the tribes of the Coburg Peninsula, and of Melville Island,* and was observed by Captain King among the natives of Lewis Island and the neighbouring mainland (i, p. 44). The horizontal breast-scars made by the latter were seen by Commander Stokes on the Roebuck Bay natives (i, p. 182), and those of Port Cunningham and Beagle Bay, in the north-west (i, p. 92). Sir George Grey mentions that the bodies of the aborigines of Western Australia are marked with scars and wales; but Mr. Eyre, on his journey round the Great Bight, met with only one native thus disfigured (i, p. 318). This curious practice forms the fourth stage of initiation among the tribes of the Adelaide district, each of whom, says Mr. Eyre, has a distinct mode of making the incisions (i, p. 334). Cook does not mention it as performed among the eastern coast natives, although he refers to their painting the body.† Collins, however, says that scar raising was practised by the natives of New South Wales, and he adds that "sometimes the scars had been cut to resemble the feet of animals" (i, p. 552). Oxley observed the same custom at the River Tweed,‡ and Barron Field says of the natives of Pumice Stone River, near Moreton Bay: "The practice of scarifying with sharp shells, seen among the Sydney natives, was found here, but the cuts were deeper, and made with great regularity" (p. 62). Captain King observes of the natives at Hanover Bay, that their bodies were scarred all over (ii, 65.) The interior tribes appear to be little addicted to this custom. Captain Sturt, indeed, met with some men near Lake Torrens who had large scars on the breast, but others seen near the same place were not thus marked (i, p. 341, 349). So McKinlay saw natives near the Leichhardt River, towards Port Denison, who were "marked down the upper part of the arm and on the breast and back" (p. 96). Mr. Wood says that in the photographs in his possession, which represent natives from various parts of the continent, these scars are very prominent; and he adds that there is not an individual who does not possess them (ii, p. 13). From this it might be inferred that they are universally used. The inference, however, would be incorrect, as several travellers expressly assert that these scars are absent from natives of different localities. Thus Captain Sturt says of the natives seen near Lake Torrens, and also of the fine Cooper's Creek tribe, that they were not disfigured by scars (i, p. 341, ii, p. 61). Sir Thomas Mitchell makes the same remark as to natives seen by him south of the Darling River (i, 261).

If we summarise the geographical distribution of these several rites,

* Earle, p. 201, 215.

‡ Barron Field, p. 39.

† Sir Thomas Mitchell met with painted tribes on the Gwydir and the Darling.

we find that *circumcision* is the most prevalent at the northern and the southern parts of the continent, it being found, however, in the west, near the Murchison River, and also in the interior of South Australia. *Tooth-extraction* is found in the north and north-west, among the tribes of the south-eastern coast, in New South Wales and sometimes perhaps in Queensland, and in the interior of South Australia. *Nose-perforation* is practised, if not by all the tribes, yet among those of the north and north-west coasts, near Shark's Bay and the Murchison River in the west, and along the southern and eastern coasts. Finally, *scarifying* is found among the northern natives, those of the western coast (although, apparently, not among the south-western tribes), in Southern Australia, and probably along most of the Eastern Coast.

From the curious distribution of these rites, and their almost universality, it has been suggested that one or more of them were at one time generally observed throughout the whole continent. Thus, Dr. Lang thinks that the removal of the teeth, and the perforation of the septum of the nose, were at one time universal; and Commander Stokes says the same of circumcision. The natives have undoubtedly a tendency to give up their peculiar customs, when they come into contact with Europeans, and they may occasionally do the same under other circumstances. The existence of tribes, like the Cooper's Creek tribe, who do not observe any of the rites referred to,* can hardly be accounted for in any other way. The men of this tribe are extremely fine and intelligent men, and they may possibly have been led to give up customs of which they did not see the value. Sir Thomas Mitchell said that the tribes who were his most determined opponents on the Darling, were those who had not undergone the usual loss of front teeth. It may be noticed, moreover, that some of the tribes near the Gulf of Carpentaria, and also several of those seen by Sturt, in the interior of South Australia, had undergone both circumcision and the loss of one or two teeth, so that these are evidently not substitutory rites, although in most cases one or other has been given up, supposing them both to have been at one time generally observed. Nose-perforation and scarifying are even now nearly general around the coast, although not so prevalent, apparently, in the interior, where the best tribes are usually found.

There is another rite occasionally met with in Queensland, which Dr. Lang thinks has also at one time been universally observed. It is the removal, by the women, of the two lower joints of the little finger of the left hand.† This custom still prevails among the New South Wales natives, as it did in the time of Collins, who gives as the explanation of it that these joints of the little finger were supposed to be in the way when the women wound their fishing lines on the hand (i, p. 552). Whether this explanation is the proper one may be doubted. It is curious that Captain King found the men of Beagle Bay mutilated by the removal of one finger joint (i, 92).

Although the preceding facts may not themselves furnish

* Sturt, ii, p. 61.

† Lang, i, p. 344. See also Barron Field, p. 62.

sufficient proof of a unity of race among the aborigines of Australia, they are nevertheless not inconsistent with such a conclusion. They appear, however, to establish the existence of certain special affinities between the tribes of particular localities, and I will endeavour, in a few words, to trace these so far as the data at our command will allow. The most noticeable facts are, that on the west coast the natives have no canoes and very inferior huts, if, indeed, they have any weather protection other than wind-screens. The huts used, moreover, are of the simple semi-circular form which is found along the southern and eastern coasts, and, apparently, far into the interior of the continent. In the east the native habitations are of inferior construction, as is the case also with their canoes, there being a pretty close agreement in both of these particulars between the eastern and southern natives. The distribution of native weapons, throughout the east, south, and west, exhibits analogous phenomena. Thus the throwing-stick and boomerang are found, with few exceptions, throughout the whole of this portion of the continent. The exceptions are the north-west (Roebuck Bay and Cape Villaret), and the north-east (Bowen River), for the throwing-stick, and the south-west (King George's Sound), for the boomerang. In some parts of the east, and in the southern interior, the wooden sword is used, but this weapon appears not to be known in the west or south-west. A consideration of the burial customs prevalent among the various tribes yields similar results. In the west the simple burial is the most usual, if not the only, mode of disposing of the dead. This mode is also practised in the south and east, although only for particular classes—the old or the very young. Among the southern and eastern tribes, however, two other modes of dealing with the dead have been introduced. These are the burning of the body; or its exposure in a tree, or on a platform, until the flesh is decayed. When this has taken place, either the bones and skin, or the skull alone, is usually preserved for a considerable time afterwards. A comparison of the native customs in the northern part of the continent with those of other regions reveals several peculiarities. There the huts, instead of being semi-circular, are usually conical, the oblong single, or storied, *gunyah*, being, however, frequent in some parts. The canoes of some of the northern tribes are of a superior description, although still made of bark. So, the spear among these tribes is quartz-headed, and they have, moreover, a peculiar form of throwing-stick; but they do not appear to have the boomerang. The burial customs of the northern natives are not so well known as those prevalent in the south, but judging from the reports of explorers, the usual mode of disposing of the body is by exposure, either on a platform or in the branches of a tree. In the north-east of the continent two peculiarities are found in the shape of the double canoe, or canoe with outrigger, and the bow and arrow. These, however, may probably be referred to a foreign origin.

Several inferences may be derived from the preceding facts. In the first place, the phenomena presented by the generality of the western natives are on the whole of a more simple character than those exhibited by the aborigines of any other part of the continent, agreeing

with the milder disposition they apparently possess. Secondly ; the southern and eastern natives agree, generally, in their customs with the aborigines of the western part of the continent, but they present certain peculiarities which seem to suggest an external influence. This influence can have been received only from the north, and there, indeed, we find in full operation those very customs, or phenomena, which constitute the differentia between the natives of the west and those of the east, such are the curious suspensory modes of burial. The conical hut of the northern natives is met with in the south-eastern part of the continent ; and the peculiar burial custom of the former is also widely spread among the latter tribes.

A comparison of these conclusions with that derived from a consideration of initiatory rites or tribal markings is not uninteresting. Of the latter, as we have seen, the scarifying of the skin, and the perforation of the nose cartilage are practised throughout nearly the whole continent, at least at its outer margin. The natives of the south-west, who are said not to have the boomerang, appear also not to have these tribal customs. The removal of one or more of the front teeth is practised in the north and north-west, in the south-east and east, and in the interior of South Australia, whilst the rite of circumcision is limited to the northern natives and those of the south, extending, however, to the interior of South Australia, and being moreover occasionally found in the west. This being so, it would almost seem that scarifying and nose-perforation are, like the use of the semicircular hut, primitive customs at one time common to all the aborigines ; that the removal of the front-tooth is a custom almost limited to the canoe-making peoples of the north, south and east, who also possess in common certain funeral rites unknown to the western natives ; whilst circumcision is still further limited to the northern and southern tribes and to some intermediate ones. According to this view the western natives will represent the most primitive and simple form of the Australian stock in the south and east. This stock has been intermixed more or less with fresh comers, who must have proceeded from the north, introducing new tribal and other customs. Before the advent, however, of the northern tribes, the whole continent was doubtless fully occupied. Hence the southward movement which seems to have taken place had probably two directions, one across the continent to the head of the Great Bight, thence spreading east and west along the coast ; and the other along the north and eastern shores, and gradually spreading over the eastern portion of the continent. This view agrees well with that expressed by Mr. Eyre, who, however, thinks that the continent was first peopled on the north-west coast, and apparently from some other source. There does not, however, seem to be any necessity to derive the aborigines of Australia from any other area. Representing the primitive stock of mankind, they are the most likely to occupy their original habitat, which may, however, at one time have been much more extensive in its geographical range, embracing much, if not all, of the islands now occupied by the so-called Malay tribes, and extending much further both east and west.

Language.—Before closing this paper, it is advisable to see how far the conclusions already arrived at are affected by the distribution of languages on the Australian continent. Little need be said on this subject, as not much can be added to what was written long ago by Sir George Grey and Mr. Eyre. Both of these writers give reasons for believing that but one language, divided into various dialects, is found throughout the whole continent.* The objections to this opinion are of not much weight. The fact that neighbouring tribes often have very dissimilar vocabularies is accounted for on the principle that the Australian dialects, like all primitive languages, abound in synonymes, many of which, as Sir George Grey remarks, are for a time altogether local (ii, p. 208), or some of which, I would add, may gradually drop out of use by one tribe and yet be retained by another. Mr. Eyre has referred to the curious circumstance that distant tribes often agree better in language than those near together (ii, p. 393). This is explainable on the assumption that the intermediate kindred tribes have been displaced by others from a distance speaking dialects which time has made wholly different. There is, however, usually not nearly so much difference between the Australian dialects as is commonly supposed. Natives of distant tribes, no doubt, often have great difficulty in understanding each other. With care, however, this difficulty not unfrequently disappears. Sir George Grey says that wherever he went, in the southern parts of the continent, he he could soon understand the natives, and this apparently, although his guides thought the fresh dialects quite different from their own (i, p. 365). Sir Thomas Mitchell states a fact which throws some light on this subject. He unsuccessfully attempted to hold communication with the natives on the Gwydir, but one of his companions obtained a vocabulary, which showed that their language was nearly the same as that of the aborigines at Wallamoul (on the Cockburn River); the only difference being the addition of *na* to each noun, as '*namil*' for '*mil*,' the eye, &c.* An analogous case is mentioned by Commander Stokes, who says that in the neighbourhood of Port Phillip native names end in *ng*, at King George's Sound in *up*, and eastward near Gipp's Land in *n*. (i, p. 291). To any one not acquainted with the fact, such peculiarities would lead to the belief that the dialects presenting them are different languages.

That distant dialects which appear to be almost unconnected may really be fundamentally the same is shown by an incident related by Dr. Lang. He says that "when the Rev. Mr. Schmidt of the German Mission to the aborigines of Moreton Bay, was on his journey to the Bunga-Bunga country, the escort of aborigines who accompanied him consisted of natives of five different tribes, of whom those living at the greatest distances from each other could hold no communication together, except through the natives of the intermediate tribes (p. 321). This quite agrees with the inquiries of philologists, and I may say that a comparison made by myself of a western Australian vocabulary with that of the Queensland Kamilaroi dialect shows that many

* See Grey, ii, p. 208 et seq. Eyre, ii, p. 393.

† *Three Explorations*, etc., i, p. 109.

of their words are the same. The agreement, however, is not merely verbal. Mr. Ridley, a great authority on this subject, says that in all the dialects examined, although the vocabularies may much differ, "the same structure of verbs, nouns and pronouns, ample modifications expressing exactly minute differences of thought, are found."*

Mr. Ridley points out a philological peculiarity which may serve in some measure as a proof of the unity of the Australian tribes. He says that many of them are named from their negative or affirmative particle, and he instances the Queensland dialect, the Kamilaroi, as being thus entitled.† So, also, Mr. Earle, when describing the tribes of the Coburg Peninsula, on the west side of the Gulf of Carpentaria, says that they are "distinguished among each other by the term which in the particular dialect of each designates the monosyllable 'No.'" (p. 218.)

We have here a confirmation of the conclusion arrived at from other data of a special connection between the aborigines of the north and east. The inquiry made by Sir George Grey into the distribution of dialects among the southern natives also confirms in great measure the conclusions already stated as to special tribal affinities. Thus, in a letter written to Lord Stanley in 1845, he divides the language spoken in South Australia, from Perth to Port Phillip, between 115 and 145 deg., into five principal dialects, which "from their radical and grammatical resemblance," would seem to have had a common origin. In illustration of a map he gives, Sir George Grey says "the people speaking the first dialect appear to have extended themselves along the coast line from the northward and westward. Those speaking the third dialect appear to have come from the northward along Lake Torrens and Spencer's Gulf, and to have spread themselves to the westward until they met the people speaking the first dialect, and from the amalgamation of the two the second dialect appears to have sprung. The people speaking the fourth dialect appear to have come from the northward, down the river Darling and its tributaries, and from thence down the Murray, until they were met by those who spoke the third and fifth dialects. Those who speak the fifth dialect seem to have come along the coast from the eastward, as far as Lake Albert and Lake Alexandrina, and from thence to have spread up the river Murray, until they were met by the other tribes who were coming from the northward." Sir George Grey adds that "those tribes who have spread along the coast-line appear to have migrated with the greatest rapidity, or, at all events to have occupied the greatest extent of country."‡ This is quite consistent with the inference I have made from other data, that the Australian continent was at one time occupied throughout by tribes intimately allied; some of those in the south being afterwards, however, displaced by tribes migrating from the north in two streams; one passing through the centre of the continent, and the other along the eastern coast, spreading, however, towards the centre, and reaching, as Mr. Eyre supposes, Fort Bourke, on the Darling. As a slight confirmation of this opinion it may be

* Lang, p. 383.

† Lang, pp. 385, 438.

‡ *Journ. of the Roy. Geog. Soc.*, vol. xv (1845), p. 365.

added that the natives, in various localities throughout the continent, view those further to the north with dread as very powerful sorcerers, a feeling which has arisen doubtless from their aggressive power.

Dr. ROBERT PEEL gave a description of Kangaroo Island, where there lived, in a state of gross immorality, the descendants of a Devonshire convict and an aboriginal woman, numbering ten in family. Dr. Peel came in contact with the eldest girl, who was living with the natives, and had had several children by an aborigine. They, as well as their mother, were expert as liars and thieves. The girl died within two or three days after admission to hospital. She alleged that she had been always brought up as a lady ; but her real life had been that of a shepherdess who was exposed to the inclemency of the weather. The Government Instructor at Port Macleay gave all her history, and showed that the family were more degraded than other aborigines. The statement of her previous education was wholly untrue. Although half-castes are widely distributed, it was remarkable that he (Dr. Peel) knew of no half-caste who had been a convicted thief. Some of the family of this girl are doing well. In North Australia, the natives were perfectly naked ; but they were able to steal hatchets, axes, string, iron, etc., by covering the object with earth, trampling it down, and by night removing it. The natives of the Adelaide River circumcise, do not extract front teeth, but they perforate the septum of the nose. Their spears are of various sizes. As they do not possess knives, they use shell and flint. The dead are buried in a grave due east and west, covered with paper-bark wicker-work or mangrove saplings. The graves are respected by the aborigines, and the strangers who molest them are killed. In North Australia, the boomerang does not exist, although the throwing-stick is frequently used. Women are kept in separate camps ; the huts are in the form of bee-hives, and are sometimes composed of merely one sheet of bark. Cannibalism is not known. The natives have no religion, but believe in transmigration, and have a dread of spirits ; they crave for animal food immediately before death ; communicate intelligence rapidly from camp to camp ; are expert swimmers, and dive well. In Northern Australia, the author did not see any half-castes. A vocabulary of the language had been compiled by the late Mr. Bennett. Many of the tribes are extinct. Syphilis is unknown ; but there were many cases of scrofula and small-pox. At Port Darwin, lat. 12°28'25" S., long. 130°52'46" E., *pura-pura* was the native name for small pox. One case of lupus had been observed. In another case, a yam-stick had been thrust into the eye, causing complete disorganisation of the organ, apparently without pain. The natives have great horror of the knife in surgical operations. Round one of the graves, which was due east and west, there were seven seats of stone, and in front of each a pile of shell-fish. Every person in camp had a separate fire, made in a hole in the ground.

Dr. PEEL further described some skulls of Aborigines and half-castes, that he had presented to the Society's Museum.

The discussion on the above two communications having been invited,

Dr. CARTER BLAKE pointed out that the Australian Aborigines certainly differed in the form of the skull extremely *inter se*. We had *a* the well known tectocephalic skull, which Ecker had described, and which was generally associated with the idea of the Australian skull; *b* the skulls from Moreton Bay and Queensland, which Professor Huxley had very well described; *c* two skulls of undoubted Australians, in the Society's museum, presented by Mr. H. G. Atkinson, and of which there was no reason to doubt the authenticity. Now if Dr. Peel's remarkable brachycephalous skull, which he found in the gutter of the hospital, was really that of a native, we have a fourth type. And none of these types agreed with each other. But anyhow the facts he had laid before them were of the highest value. The hybrid skull he exhibited was very interesting, as in the jaw proportions it was (although very young), of marked Australian affinities, which, however, were absent in the vertex, which was as well formed and as oval as that of any European.

Mr. A. L. LEWIS stated that circumcision was practised in Yorke's Peninsula, South Australia, as he had a knife made of a piece of glass fixed in a stick, which had been used for that purpose, and had been sent to him with other implements from that district by a friend who, had resided there many years, and who had also informed him that wommeras and spears were not used there.

Mr. BENDIR, Dr. KING, Mr. DENDY, Mr. PRICE, Mr. PARNELL, and others also joined in the discussion.

The chairman having announced the papers for December 6th, the meeting adjourned.

DECEMBER 6TH, 1870.

DR. BEDDOE, PRESIDENT, IN THE CHAIR.

THE minutes were confirmed.

John Colman, Esq., B.A., of Kabenda, West Africa, and William Wray, Esq., Burton Stather, near Brigg, Lincolnshire, were elected Fellows.

Thanks were voted for the list of presents, viz. :

FOR THE LIBRARY.

From the AUTHOR—The Peoples of Transylvania, by Dr. R. S. Charnock.

From the SOCIETY—Proceedings of the Royal Geographical Society, vol. xiv, No. 5.

From the EDITOR—The Food Journal, vol. i, No. 11.

From the EDITOR—Nature, to date.

From the GOVERNMENT OF VICTORIA—Patents and Patentees, from 1854 to 1866; Indexes for 1867-8; Abstracts of Specifications of Patents relating to the Preservation of Food, etc. By W. H. Archer, Registrar-General of Victoria.

Mr. W. R. COOPER exhibited and described some Græco-Egyptian Terra-Cotta figures, from the Hay Collection. He said: In soliciting permission to bring before your notice some very curious examples of

Græco-Egyptian art, I must premise that I do so less as an expositor than an exhibitor; and this cannot well be otherwise when you are told that I have hitherto devoted no time to the study of anthropology; and that the late Mr. Hay, from whose splendid collection these terra-cottas are taken, preserved few or no memoranda or data respecting the various objects which he acquired during a residence of more than five years in the heart of Ancient Egypt. The first of these figures is a small statuette, about three inches high, in hard whitish clay, and it represents the principal part of a male torso in a very singular and distorted position. As you will observe, the whole object is almost a fragment. The spine is laterally curved to the right, the chest and abdomen are contracted, the arm-pits and shoulders are unequal and elevated. From the mutilated condition of the statue, it is difficult to decide whether there ever were arms and hands attached to it; but, from the smoothness of the work at the scapulæ, I incline to think that these members never were executed. The thighs are short, deformed, and are bent outward and apart, in an attitude suggesting an obscene motive. The remainder of the lower extremities, from the middle of the thighs, together with the virile organ have been broken off. On the left shoulder is thrown a cloth, evidently a subsequent addition while the clay was wet, as a portion of this covering has been accidentally detached. But the most extraordinary peculiarity about this singular object is the form of the head and cranium. This is unusually large, and hangs over the right shoulder, and the features resemble, as far as they alone are concerned, what, I believe, is denominated the Mongolian type. The lips are small and thick; the eyes are oblique; the nose is small, recurved, and with wide nostrils; the chin is small and receding; the zygomatic bones are high; and the angles of the jaw square and heavy; the ears are placed far back, and almost in a line with the nostrils; the occipital, cerebral, and adjacent parietes, are prolonged and extended in a most extraordinary degree, so that the whole of the hinder part of the skull, which is here excessively enlarged, resembles a kind of hydrocephaloid, or rather encephaloid, tumour, which, resting upon the shoulders and the back of the neck, almost obliterates the cervical column. The summit, or crown, of this peculiar malformation is flat, and, indeed, so flat as to appear to be the result of artificial pressure. The whole of the skull and face is naked, and, together with the rest of the body, possess no indications of hair. The features are in *unison*, if the expression may be allowed, with the singular distortion of the head, and, from the vraisemblance of the entire figure, and the contour alike of bones and muscle, it is almost evident that this abnormal statuette has been modelled from life. The second object from the Hay Collection is one offering less marked ethnological peculiarities, and I will therefore not detain you by dwelling upon them in detail. It is, as you will readily observe, only a fragment, being simply a semi-Nubian head, roughly but characteristically modelled in a hard red clay; the eyes, nose, mouth, and ears, are small, the forehead is prominent and wrinkled, and the expression of the features is that of idiotic satisfaction, the temporal bones are narrow, the apex

of the head is flattened, and the occiput is high, large, and round. Like the preceding example the whole of the skull is destitute of hair, and there is little doubt that this specimen of Græco-Egyptian fictile statuary is intended to represent an Ethiopian baby, and has very probably formed a part of one of those unseemly terra cotta phallic groups so common in the period of the later Ptolemaic art.

A paper was read by Mr. A. L. LEWIS on

The Peoples inhabiting the British Isles.

It may be well that I should state in the first instance, that this paper does not profess to be a complete review of the great subject on which it treats. It is simply a collection of random thoughts on what I may call semi-detached points, thrown together in the form of a paper for a particular purpose. The contingency which it was intended to meet did not, however, occur, and I should not have read the paper in its present form at all but for the requests of some of our friends around me. I mention this, however, merely as explaining, not as excusing, its deficiencies. Our object here is the discovery of truth, and if, as is most likely, you find in this paper anything which seems erroneous, I hope you will assail it without mercy.

The subject to which I have ventured to draw your attention is very difficult, not only from the complicated nature of the facts, but from the irresistible disposition to import into the consideration of it prejudices of religion, of politics, and of that which to a great extent includes these, of race. At a time, however, when the subject is attracting so much attention, and when one, who is generally considered as a high authority upon all such questions, is *reported* to have stated for the edification of the public, that "when history first makes known the Celtic language to us it is in the mouths of a people physically identical with the *Germans* and the *Slavonians*,"* I think it may be desirable that all who have given the subject any attention should come forward and state their views upon it, provided, of course, that they can adduce facts in support of such views.

Without quoting chapter and verse in support of all my conclusions, which, as they have been gradually formed from personal observation, and from a study of numerous and conflicting writings, I might find it difficult to do, I will state, in the first place, that there appear to me to be three leading types, or races, in Britain at the present period—two Celtic and one Teutonic. These are:—

1. A race possessing a long skull, and dark brown, or sometimes black, hair, which distinguish it from the Teutonic type, but having most frequently grey, and sometimes even blue eyes. This type, which I am disposed to consider as the primeval stock, and which is decidedly Celtic, has, I believe, been called Kymric, and, although I do not think the designation a happy one, I will, for the present adopt it.

2. A race possessing a skull broader than the first, brown or black

* *Pall Mall Gazette* (evening), March 14, 1870.

hair and eyes, and a darker complexion. The hair is often not so dark as that of the first type, but both, more especially the first, frequently exhibit a peculiar form of cheek-bone. This second type, which is undoubtedly Celtic, and is commonly called Iberian, is frequently considered to be the aboriginal stock, and to be allied, some say with the Australians, others with the Esquimaux. Without pretending to say positively that any of these views are incorrect, I may state that I believe this type to be second, in point of time, to the Kymric, because of the indications of tradition to that effect; because Dr. Thurnam and others have shown us that the long skulls, in Wiltshire at all events, preceded the broad skulls, which some consider Teutonic, but which I believe to be Iberian; and because the dark-eyed type is found in largest proportion in the southern half of the island, which would seem to indicate for it an arrival later than the Kymric.

3. The third type is one of which we hear an immense deal, but of which, in its pure form, we see comparatively little. I mean the round-headed, flaxen-haired, blue or light grey-eyed Teuton; who, whether German or Scandinavian, presents—so far as he is Teutonic at all—the same characteristics, and who is, on the whole, the last-come inhabitant of these islands; for the Norman conquest, and later immigrations, have only brought us further instalments of one or other of these types.

And here I may remark that it is probable that the so-called Saxon invaders of Britain were less Teutonic than the present inhabitants of Germany; because it is affirmed by ancient writers that the Celts had at one time extensive settlements beyond the Rhine, and it is probable that, as the increase of population on the shores of the Baltic threw increasing swarms of invaders upon Gaul, Britain, and Italy, those lying nearest to these countries, *i. e.*, those who were most likely to have an infusion of Celtic blood, would be the ones who, by pressure in the rear, would be forced to precipitate themselves upon them.

On this account there is much reason to believe in a considerable admixture of Celtic as well as Slavonic blood in South Germany, while tradition and archæology so clearly show a Celtic influence in Scandinavia as to make it a fair inference that wherever the Scandinavian differs from the Teuton it is in a Celtic direction.

In this enumeration of types many apparent omissions will probably strike you. You will have observed that I have omitted all reference to the fabricators of the flint implements of the drift, and I have done this because, between them and our own undoubted ancestors is a great gulf, which I for one believe will never be filled up. You will have observed that I have made no mention of red hair and complexion, and I have not done so because I believe them to be the result of a cross between the Iberian and Kymric, and, perhaps, the Iberian and Teutonic types. You will also have observed that I have made no reference to stature; and my reason for not doing this is, that stature strikes me as being affected rather by local and other circumstances than by race, so far at least as the area now under our

consideration is concerned, a conclusion in which, as in those I have previously stated, I have been much influenced by a consideration of the valuable statistics published by Dr. Beddoe in our Memoirs.

Lastly, you will have observed that I have spoken of three distinct types, whereas we have *apparently* every possible combination of them. I say *apparently*, for there seems to me much reason to doubt whether these combinations can or do maintain themselves as separate types, not because they become extinct for want of issue, but because their issue has a continual tendency to revert to one or other of the ancestral types, so that the exceedingly numerous instances that we see around us may not be so much due to a real amalgamation of our three races as to a continual occurrence of mixed marriages, owing to their contiguity. Thus we continually find, that where the parents are of different types, some children resemble one and some the other, so that, although all may have a certain occasional "family likeness," mentally and physically, the different types are propagated in the same family, the only genuine cross being the red-haired type, concerning which it may also be doubtful whether it can or does long maintain a separate continued existence. Had it indeed been otherwise it would seem impossible, that after all the mixtures of the past two thousand years, any varying types should be found at all in Britain, except in its most remote corners, or except such as might be clearly due to some recent and comparatively trivial importation. At the same time it is probable that a mixture of races may leave some result behind it, even where one of the races seems entirely to have absorbed the other, and, if so, such results may continue long after the source from which they sprang has been buried in oblivion.

Having spoken of these three types as inhabiting Great Britain, I must now draw your attention to a fourth, a modification of the Iberian, which is principally found in Ireland, and has been so uniformly treated as the typical Celt, by that class of newspaper writers described by the *Saturday Review* as "young lions," or "tail-lashers," that a large section of the public has come to regard the words Irish and Celtic as synonymous. It is not, however, to Ireland, but to Britain and to Brittany that we are to look for the typical Celt, whether Kymric or Iberian; and between even the Welshman and the Irishman there is a want of sympathy, to say the least of it, fully equal to that which exists between either of these and the most Teutonic Briton. There is also a physical difference between the Iberian of Great Britain and the Iberian of Ireland; the former has a broader skull and a broader chest, and, in short, wherever the Irishman differs, whether mentally or physically, as differ he unquestionably does, from the Iberian of Great Britain, it is in an African direction—a fact which goes far to support such of the Irish traditions as indicate, a lengthened residence of the progenitors of the race in Northern Africa.

Dismissing this fourth type, or variation, with these few remarks, I now come to the consideration of a few of the mental characteristics of the three British types, which has been rendered all the more necessary by the extraordinary views which have been propagated,

mainly by newspaper writers of the class before mentioned. Those gentlemen have, in an unlucky hour, got hold of that most meaningless word, "Anglo-Saxon," and have argued thus:—All Englishman are Anglo-Saxons; the English people is the best and greatest in the world; therefore all the characteristics which have made it so must be Anglo-Saxon; and because those characteristics are Anglo-Saxon all Englishmen must be Anglo-Saxons. Proceeding further they have passed by at least four Englishmen who do not combine blue or blue-grey eyes and flaxen hair, if, indeed, they possess either, and have seized upon the fifth, who may exhibit such a combination, and having, so to speak, set him up on a column of leaded type as the Anglo-Saxon *par excellence*, they ascribe to him, if not the sole proprietorship of, at least an overwhelming superiority in the following qualifications and virtues, besides others too numerous to be mentioned on the present occasion.

1. Chastity.
2. Aptness for a sea life and for colonisation.
3. Good faith and honesty, and respect for human life.
4. Love of freedom.

Chastity.—The best test that we can apply on this point will be found in the statistics of illegitimacy, although the Registrar-General says (1868), "A truer method of measuring the degrees of immorality existing in the different counties consists in the comparison of the illegitimate births with the number of unmarried women at childbearing ages, a test which can only be made by means of the results of the numeration of the number of spinsters and widows living at different ages obtained by the census." Assuming even that the Registrar is right in this, it may be a matter of doubt how far the statistics he would be likely to get as to ladies' ages at the census would be reliable, and we may, I think, rest satisfied with such figures as we have, and the rather that they point unanimously in one direction.

In 1868 the average rate of illegitimate births registered in England and Wales was 5·9 per cent, but the real rate was believed to be a little higher, the larger towns affording facilities for disguising the truth in such cases; London, for instance, giving only 4·2 per cent, and the metropolitan counties still less. (See Table next page.)

Taking 6 per cent as the average, I have extracted from the returns the counties giving only 5 per cent and less, excepting London and the metropolitan counties, and those giving 7 per cent and more, of illegitimate births, and have taken from Dr. Beddoe's statistics the percentage of dark eyes and hair prevailing in each. Taking first the more virtuous counties, Kent, Rutland, and Hampshire, we find that dark eyes abound in them in unusual numbers, and though we have no statistics for Monmouth and Warwick, I believe dark eyes are tolerably numerous in them too. On going to the other end of the list we find that, on the whole, both eyes and hair become lighter as the rate of illegitimacy increases; Teutonic Lincoln, which is 2 per cent. above the general average, being, however, 2 per cent below Teutonic Norfolk, and nearly 3 per cent below Cumberland, where a very small proportion of dark eyes, combined with a very large pro-

	Rate per cent. of illegitimate births.	Percentage of persons having hazel, brown, or black eyes.*	Percentage of persons having brown or black hair.*
Kent (ex London)	4.7.....	44.....	90
Rutland	4.8.....	49.....	81†
Hampshire	4.9.....	50.....	67
Monmouth	4.8.....	No statistics.....	
Warwick	5.0.....	..	..
England and Wales, average ...	5.9.....	37.5	73.5
Suffolk	7.1.....	No statistics.....	
Northumberland	7.4.....	27.....	74‡
York (E. Riding and City)	7.5.....	No statistics.....	
Bedford	7.8.....	42.....	80
North Wales	7.9.....	55.....	74§
Lincoln	7.9.....	29.....	46
Nottingham	8.0	37.....	76
Hereford	8.4.....	No statistics.....	
York (N. Riding)	8.8.....	38.....	63
Shropshire	9.6.....	39... No statistics.	
Norfolk	9.9.....	31.....	56
Westmorland	10.0.....	No statistics.....	
Cumberland	10.7.....	29.....	80
Scotland, average	9.7|| .....	24.5	70.5

portion of dark hair, marks a preponderance of the Kymric type, which type, however, we also find in Northumberland, with a comparatively low average of illegitimacy. On the whole, however, and bearing in mind that the statistics respecting eyes and hair are founded on numbers too small to be absolutely certain, we see that they tend to show that while the Teuton slightly outstrips the Kymro in the matter of illegitimacy (Cumberland, where, however, a Scandinavian element is supposed to exist, excepted), both Teutons and Kymros are far more numerous contributors to illegitimate births than the Iberians. I have some of the figures for 1865, which show no difference except in being somewhat higher all round.

In Scotland the average illegitimate rate for 1867 was 9.7; and in Scotland, while the average colour of hair is but slightly lighter than that of England, the average number of dark-eyed persons is as 1 to 4 instead of 1 to 3, as in England. The following list of towns (in order of population) shows that, Leith excepted, the towns on the eastern, or Teutonic, coast are the chief offenders:—

Glasgow.....	9.7	Paisley	8.2
Edinburgh	10.2	Greenock	6.0
Dundee	11.2	Leith	6.5
Aberdeen	14.0	Perth	9.8

(Average rate of Scotch towns..... 9.5).

* The figures in these columns are computed from Dr. Beddoe's valuable statistics, published in the third volume of *Memoirs of the Anthropological Society of London*.

† Dr. Beddoe's figures, taken from Rutland and Leicester. Leicester gives 6.9 illegitimate births.

‡ Based on very small numbers.

§ South Wales gives only 6.3 per cent., and only 36 per cent. of dark eyes—this number is probably too low; and that for North Wales (55) too high.

|| Insular, 5.3; mainland and rural, 10.2; town, 9.5.

Seven Scotch counties give above 12 per cent. ; the average rate for the "mainland and rural" being 10·2 per cent. These counties are Elgin, Banff, Dumfries, Aberdeen, Kincardine, Kirkcudbright, and Wigton, all east and north-east except the two last, which are south ; and Mr. Cleghorn has told us (*Anthropological Society's Memoirs*, vol. iii), that in the eastern, or Teutonic, districts the average rate for 10 years (1855-64) was about 10 per cent., while in the western districts it was about 6 per cent. In Scotland, therefore, where the line between Celt and Teuton is more clearly defined than in England, these figures show conclusively that it is not the Celt who contributes most to the illegitimate birth-rate.

The rates for foreign countries are as follows :—

Celtic (chiefly).

*Spain, 1864†	...	...	...	5·5 per cent.
*Italy, 1865 ...	...	...	...	5·1 "
Belgium, 1865	...	...	...	7·0 "
France, 1864	...	...	...	7·5 "

Teutonic and Scandinavian.

Holland, 1864	...	...	...	4·1 per cent.
Prussia, 1864	...	...	...	8·1 "
Norway, 1860	...	...	...	8·4 "
Sweden, 1864	...	...	...	9·5 "
Austria, 1864	...	...	...	10·9 "
Wurtemberg, 1864	...	...	...	16·4 "
Bavaria, 1862	...	...	...	22·5 "

On this point the Registrar-General says (1868), "In some countries the rate is considerably higher than in England, but many circumstances have to be taken into consideration in making any comparison in this direction. In France the rates are comparatively low ; in Austria the rate is high ; while in Wurtemberg and Bavaria it is excessively high. In some of the European states marriage is prohibited until the parties can show that they have the means of maintaining their offspring, and concubinage is often the result."† Whatever circumstances the Registrar, who does not look at the matter from a racial standpoint, may find to consider in estimating the value of these figures, they all point to the same result ; and that result is in no way favourable to the claim of the Teuton to superior chastity.

Aptness for Sea Life and for Colonisation.—The first European maritime people that history introduces us to, after the Greeks and Latins, is the Celtic Veneti of Brittany, and the Bretons of the present day are hardly inferior, as sailors, to any people in the world. The next great maritime power, second to Rome, appears to have been Britain, under Carausius, nor was it till many years after his death that the Teutonic and Scandinavian (principally the Scandinavian), peoples developed their sea-faring propensities. Soon after the dis-

* Believed to be too low from incorrect registration.

† These years are not selected specially, but are the only ones I have at hand. The variation from year to year is not likely to be large.

‡ This is practically the case with our own upper and middle classes.

covery of North America by the Norsemen, we find a Welsh prince, Madoc, discovering some country, which is believed to be part of South or Central America, and returning thither with a colony. Whether this expedition landed in safety is not known, but the numerous legends respecting white Indians, etc., current in those countries at the time of the Spanish discovery, may lead us to infer that it did, and we, who have so often discussed the question whether the white race can support itself in America, are not likely to stumble at the fact that no descendants of Madoc's small colony have yet been found there. The great discoveries of the Tudor period were made by Spaniards, Portuguese, Italians, and Britons. Spain was the principal naval power till overcome by Britain; the Scandinavian having, as regards marine exploits, apparently died a natural death from exhaustion,* and the Teutons, except the Hanse Towns, whose trade was mostly coasting, being only represented by the Dutch, as, indeed, for all practical purposes, is still the case. Dutchmen are not exactly Germans however, and it might throw much light on our subject if we could ascertain the reason of the difference between them. Seeing, therefore, that with the exception of the Saxons for about two centuries, (the Hanse Towns, which were not exclusively Teutonic), and the Dutch for the last three centuries, all the great European naval powers have been either Celtic, or, like Britain and Scandinavia, of mixed blood, I cannot understand how the Teuton can claim to have demonstrated his superiority at sea as compared with the Celt.

With respect to colonisation, Mr. Pike has well observed that the German does not colonise, but emigrates to the colonies of other nations.

Good Faith, Honesty, and Respect for Life.—Without inquiring too minutely as to whether the average Englishman is really more honest and humane than his neighbours, I propose to examine the claims of the Teuton in those respects. Almost the first thing we hear of the Teuton in Britain is, that Hengist murdered three hundred British nobles at a banquet to which he had invited them for the purpose, and though many doubt the existence of Hengist, and therefore the truth of this narrative, it is well known that the custom of pledging healths arose as a guarantee against such malpractices, which, nevertheless, were continually resorted to. The massacre of the monks of Bangor, by Edelfrid of Northumbria; of Edward by Elfrida, at Corfe Castle; and of the Danes in 1002, are familiar to all, while less known, but very frequent instances occur throughout Teutonic history, such as the murder of thirty Slavonic chiefs by Gero, a Saxon count in the 10th century, who had invited them to an entertainment and made them drunk for the purpose; and the Newgate Calendar does not record more crimes of all kinds than do the chronicles of the Saxon domination in Britain. But it is doubtless on the history of Germany, and especially of the kingdom of Prussia, that the admirer of the Teuton will rest his claim to superior honesty, good faith, and humanity. I wish him joy of his undertaking.

* The Celtic influence in Scandinavia was doubtless much stronger when the Norsemen ruled there, a thousand years ago, than it is now.